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LECTURES ON SURGERY, MEDICAL AND OPERATIVE,

DELIVERED AT

St. Bartholomew's Hospital;

BY MR. LAWRENCE.

LECTURE I.

Treatment of Fractured Spine continued—Fracture of the Clavicle; Symptoms; Treatment.—Fracture of the Scapula; Treatment.—Fracture of the Humerus.—Fracture of Neck of Humerus; Treatment.—Fracture of the Shaft of Humerus; Treatment.—Fracture of the inferior end of Humerus; Treatment.—Fracture of the Forearm; Treatment.—Fracture of the Carpus.—Fracture of Metacarpus.—Fracture of the Phalanges of the Fingers and Thumb.

In the last Lecture, Gentlemen, I mentioned to you the necessity of observing absolute quiet in the case of fractures of the spine in order to favour the consolidation of the bones, and to diminish the chance of inflammation, and the disturbance which might arise from that cause. But where the vertebral column is injured high up in the neck, the necessity of absolute quietude is still greater, because a slight degree of motion will sometimes be attended by a sudden and fatal pressure upon the spinal chord. The fractured portions in the neck are much more loose and moveable than in the case either of fracture occurring in the back or in the loins; and thus it will happen, that if the head of the patient be incautiously raised—if the patient be lifted from the recumbent to the sitting position, the upper fragment of the fracture may slip forward on the lower, and produce pressure on the medulla spinalis. Within the last two or three months, I had in the hospital a patient, in whom fracture of the upper part of the cervical vertebræ had taken place. The exact situation of the fracture was not known, but it was very high up. Some friends of the patient came to see him one evening, and he was very desirous, from the irksomeness probably of remaining in one situation, to be moved, and having expressed this wish to his friends, they raised up his head, brought it forward, and he died instantly. I suppose the result of the case would have been equally fatal if this had not occurred; but of course it will be well to avoid an accident of this kind.

Fracture of the Clavicle.—When you consider the form, the position, the connexions, and the office of the *clavicle*, you will not be surprised to find that it is very frequently broken. The clavicle is a bone of rather slender substance, and elongated in its form. It is situated at the upper and anterior part of the chest, where it is covered simply by the integuments; so that, in fact, its outline is distinctly visible through the skin. It is placed between the sternum and the scapula, to both of which it is articulated; and it serves to keep the scapula, and through it the whole of the upper extremity, at a proper distance from the sternum, so as to give to the arm a free range of lateral motion. But for this bone, the scapula and upper extremity would come forward over the chest; and, indeed, were it not for the clavicle, the upper extremity would come forward, and correspond in man to the situation of the anterior extremity in quadrupeds. The clavicle is a kind of *pivot* upon the trunk on which the upper extremity turns. Under these circumstances, the clavicle is frequently broken by direct violence, that is, by blows inflicted immediately on the bone itself. It is also liable to be broken in consequence of violence communicated to it through the medium of the upper extremity. Thus, when a person falls to the ground, and stretches out the arm to save himself—if he fall on the shoulder, on the elbow, or on the palm of the hand—in either of these cases, the clavicle is included between two forces, and the bone gives way at its weakest point, which is generally towards the middle.

Generally speaking, the fracture of the clavicle is *single*, that is, it consists of one fracture only; but in the case of a violent

blow, the bone may be broken at more than one place; and there may be great ecchymosis of the surrounding parts. By such a direct blow, the comminuted portion of the clavicle may be depressed upon the axillary vessels and nerves, and produce symptoms referable to pressure upon those parts. Fractures of the clavicle, also, may be either simple or compound—the latter very rarely. Lately I had a case of compound fracture of the clavicle under my care in the hospital, where the opening made through the integuments was small, and situated at some distance from the fracture. The wound closed very kindly, and then the case proceeded as a simple case of fracture of the clavicle.

When the clavicle is broken, it depends on the situation, whether there will be any considerable displacement. If the fracture take place at the scapular end, that is, within about an inch or an inch and a half of the articulation, there will not be any displacement, because the under surface of the clavicle is there closely connected to the root of the coracoid process by a ligament. Likewise, if the bone be broken near to its thick part—near to its sternal end, it is generally not displaced. But these are the most unusual situations in which a fracture of the clavicle is likely to take place; it more commonly gives way towards its middle, and then there is usually considerable displacement.

When the clavicle is broken, the shoulder being no longer retained by the bone in its proper lateral situation, advances towards the sternum; the shoulder moves onwards, or towards the middle line of the body; and this carries the scapular end of the fragment under the sternal end. The shoulder also sinks; for the clavicle forms a support to the upper extremity, by the weight of which the scapular end of the clavicle is dragged downwards. The principal displacement, then, is inwards and towards the sternum, and that necessarily occasions a riding of the bones; it necessarily occasions the sternal end to overlap or ride over the scapular end.

Symptoms.—When the reduction is effected, which it easily is, there is a manifest grating or crepitus. The deformity that is produced by the displacement of the fragments is visible externally; and, in fact, if the clavicle unite with its two fragments displaced, this disfigurement is more or less visible afterwards, a circumstance which, of course, it is very desirable to avoid, supposing it to occur in females, with whom that part of the body is usually exposed. The motions of the upper extremity, that is, those motions which the upper extremity performs upon the trunk of the body, are effected with pain, and they are limited, more especially the movements upwards. A person, when the clavicle is broken, cannot, without much pain, raise the arm. The under motions, those that are performed with the arm hanging down, may take place without much inconvenience. In consequence of the sinking of the shoulder, the patient generally turns his head and neck to that side; and he will be inclined to support the elbow with his other hand, in order to ease the pain; such is the kind of attitude in which he will place himself.

Treatment.—It is very easy to reduce or replace a broken clavicle, but it is by no means easy to retain the fractured ends in exact apposition, so as to produce an union in which there shall be no deformity. If you lift up the elbow, carrying the shoulder a little backwards and outwards, you can bring the broken clavicle into its proper place; and if you can keep the upper extremity in this situation, you, of course, can maintain the position of the fragments; but this is the difficulty; you cannot apply the means of retention so as to bear exactly upon the broken bone; you can only act upon the broken ends of the clavicle through the medium of the shoulder. Although moving the arm outwards, to elevate it so as to get the clavicle into its proper position, does not occasion much inconvenience, yet *retaining* the limb in this position soon becomes exceedingly troublesome to the patient, for many of the apparatuses that are used for this purpose *gall* the patient, producing excoriations. Several of the modes of bandaging that have been invented for fractured clavicle act pretty well while the patient is in the erect posture, but when he lies down, the shoulder being pushed forwards, the bearing of those applications is considerably altered, so that they no longer produce the proper effect, especially if the patient lie on the side on which the accident has occurred.

The modes of retaining a fractured clavicle in its situation which have been generally practised, act by drawing back the shoulder altogether. The figure-of-8 *bandage* is one which has been most commonly used; this consists in applying a bandage round the two shoulders alternately, and crossing it over the back, so that the turns round the shoulders represent pretty accurately the figure of 8. In that way the two shoulders are usually equally drawn backwards and inwards. There is a bandage which was invented by Brasdor, and it is very similar to the figure-of-8 bandage. It consists of a square piece of leather, adapted to the part, and two straps which go round the shoulders, and are buckled to two passing round in the opposite direction. This piece of leather is split into two in the middle, so that the force is applied as in the figure-of-8 bandage. Both of these modes of pro-

ceeding are attended by a very considerable degree of pressure on the under part of the axilla. The skin is rubbed, fretted, and excoriated, and great inconvenience is thereby experienced. The shoulders are not only drawn together posteriorly, but the scapular end of the broken clavicle is pushed somewhat under the sternal end, as you will at once perceive. Now, you want some force that will draw the shoulder connected with the broken clavicle, outwards, and not inwards or towards the middle line of the body. Desault observing the defects of these ordinary bandages, very properly conceived that the principal object in a broken clavicle was to draw the scapular end of the broken bone outwards, to remedy the disposition which exists in the shoulder to fall towards the sternum. He said the principal indication was to pull the shoulder outwards in the lateral direction, and the scapular extremity of the clavicle connected with it; and he thought that the best mode of accomplishing this was to employ the humerus as a lever, pinching a cushion in the axilla as a fulcrum. This cushion is thick at its upper part—of between three and four inches in thickness, and gradually tapers off, becoming thinner below, where you do not require any cushion. When the cushion is placed into the axilla, the arm is brought down to the side; thus the upper extremity of the humerus is drawn out, in doing which you likewise bring out the part of the clavicle which is connected with it. Desault used a peculiar apparatus for the purpose of meeting his views, but it was so complicated that it soon got, in a great measure, out of use, and I believe is not now employed at all. However, the principle of placing the cushion in the axilla, and of carrying the upper end of the arm over it, is undoubtedly perfectly correct, and constitutes one of the important points of treatment. In order to get rid of this complicated bandaging of Desault, Boyer, employing the cushion, at the same time used a body-belt fixed by straps and buckles, something like a fractured rib bandage; around the lower part of the arm was a portion of web, with straps, corresponding with buckles on the body-belt, and thus keeping the arm close to the side. I believe the best mode of treating a fractured clavicle will consist in applying a cushion in this way, confining the arm to the side by means of a broad bandage encircling the trunk and arm generally, supporting the elbow and the rest of the extremity by means of a sling carried over the opposite shoulder. By having the sling of a requisite length, you maintain the shoulder at a proper degree of elevation, you remedy that sinking which is the natural consequence of the accident.

There is a very great multiplicity of bandages and apparatuses for fractured clavicle; and from this circumstance we may infer, that not one of them is recognised as answering the purpose very properly.

I should observe to you, that the difficulty of maintaining the two ends of this slender bone in direct apposition is so considerable, that I do not know any one of the processes hitherto recommended, that can be confided in for accomplishing the purpose very satisfactorily. It will usually happen, that more or less deformity will attend fracture of the clavicle; but there is this consolation in the case, that the deformity does not at all injure the subsequent motions of the part. We may see instances, indeed, in which the fractured ends are considerably displaced, in which the sternal extremity rides considerably over the scapular, and yet the movements of the limb are quite perfect.

I have seen cases where the fractured clavicle has been united, really about as well without the application of any bandage at all, as where bandages have been applied. I remember an instance of a gentleman who called to consult me, saying that he had fallen about a fortnight or three weeks before, and from that time had suffered some inconvenience about the shoulder, but indeed that he should not have called upon me, except that he had mentioned the circumstance to a friend who had told him he ought to see a surgeon. I asked him if he could move the hand freely. He said he could. I asked him to put his hand to his head; he did so, but certainly not so well as he had ordinarily done. I requested him to move his arm about in other ways, and then I found he had broken the clavicle in the middle, and that the ends overlapped each other, but not considerably, while great progress had been made towards union. The imperfection in the motion of the arm was but slight, and the fracture had gone on healing without bandaging or any other treatment, and the overlapping of the ends was not very great. I could not recommend him any treatment, but to keep the limb quiet; it got quite well, and he had the use of the extremity just as well as if such an accident had not taken place. Not long ago there was a patient in the hospital, a female, in whom this accident had occurred about ten days before her admission; during this time nothing had been done in the shape of treatment, yet the case was going on very well, and without more displacement than we usually see in cases which are treated mechanically.

Fracture of the Scapula.—The *scapula* is so much covered by muscles, and its connexions with the trunk are of such a kind, as to allow of its yielding under the application of external force, so that fractures are uncommon. Some parts, however, which

are placed nearest the surface of the body, and which project particularly, may be broken,—the acromion especially, the inferior angle of the scapula, and more rarely the coracoid process, and the neck of the bone.

Treatment.—Now as regards the inferior angle of the bone, the *acromion* and *coracoid processes*, all that we can do in cases of fracture of those parts, is to keep the upper extremity at rest; for when that moves, the scapula will move also; and we may perhaps, in some measure, assist the maintenance in apposition of the broken fragments, and the consolidation of a fracture, by the relaxation (through the peculiar position of the upper extremity) of a particular muscle connected with the broken part of the bone, or by the application of some local compress. We cannot, however, do much by any kind of apparatus.

Fracture of the *neck* of the scapula is spoken of as if it were a common occurrence. I have seen many cases said to have been fractures of the neck of the scapula. Now this part is so completely internal, it is so protected by the acromion, the clavicle, the coracoid process, and the head of the humerus, that we cannot well expect that it would be frequently broken; add to which, force applied to any of these parts loses its influence in a great measure by the yielding of the scapula. I should rather think, therefore, that fracture of the neck of the scapula is a very uncommon occurrence; and I am the more inclined to this opinion, from never having seen, in any anatomical museum, a specimen of such a thing. I believe that those cases so frequently supposed to be fractures of the neck of the scapula, are fractures of the head of the humerus high up. It must at all events be extremely difficult to establish a diagnosis in these cases; indeed, the detection of a fracture, when situated under considerable thickness of parts, which surrounds a joint, is attended with great difficulty; and, of course, it is still more difficult to arrive at a knowledge of the exact parts of the bone that may have been broken.

In reference to treatment, however, there may be no material difference between that which we should pursue, if the neck of the scapula, or if the head of the humerus, were broken. In both cases, the weight of the upper extremity must be sustained by means of a sling; we press it upwards, and the humerus must be firmly bound to the side. That is the course of proceeding I should adopt, whether the neck of the scapula, or the head of the humerus, were broken.

Fracture of the Humerus.—The *humerus* may be broken in any part, from the head down to the inferior articular extremity.

Fracture of the Neck.—Fractures of the *neck* of the humerus are very often spoken of. This is hardly to be understood in a strict sense, because the neck of the humerus is the portion immediately surrounding the hemispherical prominence, articulated to the glenoid cavity, and this is a part particularly thick and strong, and therefore not likely to be broken. But when we speak of fracture of the neck of the humerus, we must include, I suppose, almost the whole of the space above the insertion of the deltoid muscle.

Treatment.—I have already mentioned that in these cases, to support the weight of the limb, and keep it firmly fixed to the side, are the readiest means of maintaining the apposition of the broken ends. It may happen, if the situation of the fracture be low, so that we can feel the exact situation, we may assist the apposition of the fragments by placing a compress in the axilla, and drawing the upper part of the extremity downwards, inwards, or forwards; or even by applying a compress externally. There are minute points which must be judged of in every particular case; but I repeat that the general mode of proceeding must be by supporting the weight of the extremity, and maintaining the apposition of the fragments by confining the arm to the side.

Fracture of the Shaft.—As we have the whole of the shaft of the bone immediately under our observation, the existence of fracture is easily ascertained, and no difficulty is experienced in maintaining the broken parts in apposition.

Treatment.—We must relax the muscles attached to the humerus. In putting such a fracture up, we may apply a circular bandage to the upper extremity, commencing at the wrist, and carrying it upwards, continuing it over the elbow and over the fractured parts; then we may include the fractured bone in two, three, or four splints, according to circumstances. Occasionally, after using a certain portion of the bandage to accomplish the circular rolling of the limb which I have mentioned, some surgeons employ the rest in carrying it round the splints, so as to confine them properly to the humerus.

The humerus may be broken at its lower part, the fracture extending longitudinally into the elbow joint. Sometimes one of the condyles is broken off, the internal or the external; and, indeed, in the majority of such cases, the fracture embraces rather more than that part to which the anatomical term *condyle* is applied; it embraces a portion of the inferior extremity of the bone. In such a case there may be a longitudinal fracture, extending above the elbow-joint, and a transverse fracture, forming the termi-

nation. This complication of injury generally gives rise to swelling of the joint, effusion of fluid into its cavity, pain in the part, requiring the application of leeches, or other antiphlogistic treatment, before we can proceed to confine the bone, with a view to its consolidation.

Treatment.—When the inflammation has been subdued, we then confine the fractured parts by means of the same kind of splints that are commonly used for a fractured humerus. These, however, in some instances, do not completely retain the fragments of bone in apposition, and under such circumstances it is expedient to employ a bent splint that embraces the fore-arm as well as the upper arm. Mr. Amesbury, whose observations I have already referred to, recommends a bent angular splint, of which the upper part is adapted to the humerus and the lower part to the forearm. Another mode recommended is, to apply a wetted piece of pasteboard, so as to form a case for the arm; to take it off when it is dry and line it with leather, or some other soft substance, and then it is found to be a machine very well adapted for retaining the elbow, forearm, and arm, in a proper situation.

After a certain time has elapsed, say at the end of a fortnight or three weeks, in the case of fracture extending into the elbow joint, or indeed in the instance of fracture extending into any other joint, it is expedient for the surgeon gently to move the parts,—to give what we call *passive motion.*

Fracture of the Forearm.—The bones of the forearm may be both broken together, or they may be broken separately. In the former case there is a deformity of the limb, an angle; and a crepitus is felt on moving the bones.

Treatment.—When both bones are broken, the object is to retain them in a position parallel to each other, and to maintain them in a perfectly quiet state until consolidation is effected. The attitude of the limb, therefore, is that in which I now place my forearm and hand, the palm towards the chest, the thumb upwards, and the little-finger downwards, so that the direction of the hand, the radius, and ulna, is the same. If you allow of any degree of pronation and supination, the bones are no longer parallel, and then the fragments, especially of the radius, will not be in apposition. It is not likely the hand will fall into the supine state, but if not supported it has a natural tendency to fall into the prone state, and then that fragment which is carried forward with the hand projects, and of course the bone unites in an improper position. Flexion, then, of the elbow at right angles with the humerus, the parallel position, whether one or both bones be broken, are the points to be attended to. Then you place a splint on the outer and on the inner side of the limb. Those splints ought to be lined with a thick compress, corresponding with the interval between the bones, and the whole to be then confined by a roller. The splints should be long enough to extend to the hand; at all events the inner splint should reach forward to the hand, so as to support the thumb, and prevent it from dropping.

A circular bandage is not well calculated for fractures of the forearm, because, in surrounding the fractured portions, you would bend the fractured ends inwards, and if great care was not taken, you might have the fracture united in such a way as to impede the motions of supination and pronation; such has been known to occur; indeed the necessity of preventing the inward displacement of the fragments of the forearm has appeared to some so important, as to induce them to recommend splints which are convex on the sides turned towards the bones, so that the convexity shall press inwards towards the interosseous ligament. The common straight splints will, however, answer every purpose that is required.

The radius is much more frequently broken singly than the ulna, for the radius constitutes almost entirely the articular surface which supports the hand; and fractures occur, in consequence of force applied to the hand, as in cases of falling, when a person stretches out his hand to prevent himself from being hurt. Here you have not any great displacement of the fragments, or deformity. The treatment of the fracture, so far as bandages and splints go, is the same as if both bones were broken.

The radius is sometimes broken very near the wrist; and here the action of the pronator radii teres, and quadratus, will sometimes displace the fragments, by drawing the lower fragment forwards. It was proposed by Mr. Cline to let the hand fall downwards in this case, so as to have the short fragment of the radius drawn upwards. There is not, however, any great room for displacement in such a case.

Perhaps the most frequent fracture singly, is that of the *olecranon*, and the mode in which this part projects, renders it very much exposed to blows, or other violence, more especially in cases of falls; so that you cannot be at all surprised that fractures of the olecranon should be so frequent. In these occurrences you may either have a small bit of bone broken off that part which is immediately connected with the attachment of the tendon of the triceps, or the fracture may extend across the middle of that part of the bone which forms the great semilunar cavity.

This fracture is sometimes attended with

considerable displacement, arising from a retraction of that portion of the bone connected with the tendon of the triceps; however, in many instances, that portion of the bone is not materially displaced; and, indeed, whether it be or not, we usually find, that if the elbow be brought into the extended position, the fragments are nearly, if not completely in apposition. The pulley of the humerus, on which the sigmoid cavity of the ulna plays in the motions of extension and flexion, and the excavation in the humerus just above the olecranon, contribute to fix the end of the ulna in its position, and to prevent any external displacement. The only displacement that can take place, is in consequence of the extremity being drawn up by the triceps. You will find, by observing the motions in a skeleton, that there is an inch, or an inch and a half of difference with respect to the position of the head of the ulna arising from the limb being in the bent, or in the straight position; if you bend the forearm, you have a displacement, not in consequence of the action of any muscles, but in consequence of the movement of the end of the ulna, from and upon the end of the humerus. It has been generally stated, that in fracture of the olecranon, you must keep the arm in a state of complete extension; that you must place a splint on the palmar aspect of the elbow-joint, covering the inferior half of the humerus and upper half of the forearm. Now, I must observe to you, that this is a very unpleasant position for the arm to remain in. Patients will not bear to be kept in this condition for the required period; a great stiffness is produced in consequence of the stretching of the ligaments and muscles, which this position requires. In the majority of instances, this extension is unnecessary. In the instances where the fragments are not much displaced, the elbow may be kept in the half-bent position. You may apply a circular roller to the upper arm, commencing above and carrying it downwards, so as to prevent the contraction of the triceps. You may employ lateral compresses, so as to fix the broken ends of the olecranon in their proper position; then maintain this by pasteboard splints, accommodated to the form of the limb, one before and one behind, so as to encase the arm. This practice is recommended by Mr. Earle, and from some cases that I have seen, I think that he has properly enforced the advantages introduced by Desault and others, of the practice which relieves the patient from the inconvenience of keeping the arm in the forced extended position. Fracture of the ulna, at any part below the elbow-joint, is to be treated by the same applications and bandages which would be used in other fractures of the forearm.

Fracture of the carpus.—Fracture of the *carpus* cannot take place, except by extensive injury, which comminutes and extensively injures a great variety of bones. We do not find fracture of any one particular bone; the bones are too much surrounded by soft parts to admit of that.

Fracture of the metacarpus.—Fracture of the metacarpal bones of the fingers or thumbs, must be treated by keeping the hand in a state of rest. So far as the metacarpus is concerned, the ends of the fractured bone are not generally displaced, so that if the hand be kept at rest, that will be found sufficient.

Fracture of the phalanges of the finger.—In the case of fracture of the *phalanges* of the *fingers* or *thumb*, small splints and rest are sufficient to answer all the necessary purposes.

Lecture LI.

Fractures of the Femur.—Fractures of the Neck of Femur; Treatment.—Fractures of the superior third of Femur; Treatment.—Fractures of the inferior extremity of Femur; Treatment.

The femur, like the humerus, may be broken in any part, from the immediate neighbourhood of the round head, which is received into the cotyloid cavity of the pelvis, down to the condyles, which rest upon the superior articular surface of the tibia. There is no portion of the bone between these two points which is not liable to fracture.

Fracture of the Neck of the Femur.—When you observe the comparatively slender portion which connects the head of the bone to the upper extremity of its shaft, to which the name of *neck* is given; and when you consider that in supporting the body upon one extremity, the whole weight rests upon the superior surface of the head of the femur, you would naturally expect that the neck of the thigh-bone would very frequently be broken; and we find that it really does very frequently experience this kind of accident, but not under the circumstance to which I have just alluded. The fracture of the neck of the thigh-bone does not happen, as we might suppose it would, when one limb comes to the ground, so that the weight of the body rests entirely upon the head of the femur on that side; but the great majority of instances happen in consequence of a fall upon the trochanter major, when an individual slips in walking, and falls down on that side of the pelvis on which the slip takes place; under these circumstances, the slender neck of the thigh-bone is exposed to the action of two forces in opposite directions—the impulse of the ground against the trochanter, and the weigh of the trunk of the body, which is supported on the neck of the bone. After

a fall of the kind alluded to, the patient finds himself totally unable to use the limb. He is assisted to rise from the ground, he feels that he cannot support the weight of the body on the lower extremity of that side, and that he is totally unable to use the limb. If you direct him to raise the hip or knee-joint, he will put his hand to the part, and attempt to raise it in that way; and you sometimes find, independently of this, that the limb can be a little raised by voluntary efforts upon the surface of the bed. The patient has very little power of turning the foot outwards or inwards; the motions of adduction and abduction are attended with very considerable pain. When you come to examine a patient who has experienced an accident of this kind, you find that the leg, that is, the whole of the lower extremity, is turned outwards. This circumstance may partly be ascribed to the natural position which the limb will take when left to its own weight; for if you place the limb straight on a level surface, and no muscular action occurs, the weight of the foot will turn it outwards; but no doubt it must be principally owing to the action of the muscles which affect the position of the thigh-bone, several of which, at the upper part of the limb, have the *immediate* office of everting, or rotating the limb outwards, and several others have that office in a *secondary* way. Most of the large muscles that are implanted into the thigh-bone, derive their origin from the pelvis, the gluteus maximus, the gluteus minimus, the iliacus internus, the large abductor muscles—all these have the effect of twisting the limb outwards; the limb, therefore, goes into that attitude into which the action of the most powerful muscles will bring it, that of eversion.

The circumstances which I have now mentioned, show how to identify a fractured femur—a fall on the trochanter major, inability to move the limb by voluntary efforts, want of power, with eversion of the foot and lower extremity generally.

Now this condition of eversion is not so invariable, but that sometimes the opposite state, or the turning of the foot *inwards*, is observed to take place. This, however, is a rare occurrence, and I cannot say that I ever saw it myself; and the deviation in these particular cases has not to my mind really been satisfactorily explained.

Then there is another circumstance which is characteristic of fracture of the neck of the femur, and that is, a *shortening* of the limb. When the neck of the thigh-bone is broken, the muscles which pass from the pelvis to the femur, or to the leg, by their contraction, have the effect of drawing the limb upwards, so as to make the inferior extremity of the fracture pass beyond the superior edge, so as to draw up the shaft of the bone above the broken portion remaining in the cotyloid cavity. This shortening of the limb takes place to various extents—seldom more than about an inch at the commencement of the accident. Sometimes the fractured extremity appears at the very beginning to be of the same length with the opposite one; but there is a consecutive retraction of the muscles. The limb, which at first was of the same length with the other, becomes shortened within a little time after the occurrence of the accident. This diminution of the length of the limb is not a fixed or permanent condition. As it depends upon muscular action, you can put an end to it by applying a force superior to that by which retraction is effected. By pulling the lower end of the femur, or leg, you can bring the limb down so as to make it of the same length with the other. When you have done so, if you leave it loosely at rest, you may probably find it relapse into the former position. That is a peculiarity which distinguishes the displacement that occurs in fracture of the neck of the thigh-bone, from any circumstance that can be observed in *dislocation*, for in the latter accident the limb is almost immoveably fixed in its unnatural situation.

If considerable retraction has taken place, you will not expect to perceive a *grating* or *crepitus*, because the displacement of the fractured ends occasions them no longer to correspond with each other; so that when you move them, you do not, of course, produce a grating, but crepitus may be felt after you have drawn the retracted limb downwards, because then you make the broken ends correspond. Still, as the portion of bone left in the os innominatum is not subject to pressure, it may move with the rest, when you put the limb into various situations, in order to try whether there is crepitus; it may move with the other parts, so that you cannot detect that symptom. I should say that, in the majority of instances of fracture of the neck of the thigh-bone, you cannot distinguish this particular evidence of the accident. You may expect to find it by drawing the knee down, then pressing up the bone, in order to fix the head in the acetabulum, and moving the different parts, so as to make them grate; but you are not to consider this as an essential part of the evidence denoting fracture of the neck of the femur, the combination of the other circumstances I have mentioned will be sufficient without this, to convince you of the existence of the fracture.

Then I should observe to you, that the accident in question does not take place in young subjects; it seldom takes place even in the middle period of life; usually it occurs in persons who have passed that age, and more commonly in those of advanced

years; it seems that in them the osseous system in general does not possess that solidity which belongs to persons in the early period of life, and that the neck of the thigh-bone particularly acquires a degree of softness, so that it more readily gives way under external force.

Then, in case of an accident, such as I have described, characterised by the symptoms enumerated, when the patient has been laid quiet in bed, and has either received as much surgical attention, or there has been such adjustment of the broken limb as may have been considered proper after the period which we usually find adequate for the consolidation of a fractured limb, when the patient gets out of bed, and attempts to use the member, the result of the accident will be found to be very various. In some patients, and particularly in the more elderly, the part which has received the injury seems to continue very weak. The patient has very little power of bearing upon the limb, using it, or supporting the weight of the body upon it; but, after some time, the patient gets about upon crutches, moving the fractured limb, however, very imperfectly, which imperfect motion perhaps continues throughout life, the patient being only able to drag the limb about in a cautious manner with the support of crutches and sticks. In other instances, the broken bone appears to acquire its proper solidity. About eight or ten months perhaps after the fracture, there appears to be so much strength in the broken part, that the patient can walk about with crutches, and soon finds that he can even dispense with the use of them, and that a tolerably perfect power of moving the limb, and of supporting the body, is recovered. The differences in these results, no doubt, arise from peculiarities in the circumstances accompanying the accident.

Now, in the first place, under this description of accident we may have a fracture passing completely through the thigh-bone within the attachment of the capsule of the hip-joint, and we may have the bone with the membranes that cover it completely divided; we may have that part of the bone broken, but not completely through; we may have fracture of a part, and yet a considerable portion of the membranous investment remain entire. Instances have been known where the neck of the thigh-bone has been broken through, so that upon sawing, a distinct line of fracture has been perceptible, and yet the parts of the bone have not been at all displaced, nor any of the membranous surface ruptured. Under such circumstances, probably there was neither retraction nor eversion. Then you may have a fracture so close upon the point where the ligament is attached to the bases of the trochanters, that the fracture is situated externally to the capsule of the joint; or you may have a fracture partly situated externally to the capsule, and partly running into the inside. You may also have a fracture through the trochanter major itself; and although in point of situation it is very different from a fracture of the *true* neck of the bone, yet surgically in reference to the symptoms that are produced, and in reference to our power of diagnosis, considering the thick muscles that come over the joint, that accident passes during the life of the patient under the denomination of fracture of the neck of the femur. We cannot perhaps distinguish during life between it and fracture of the neck, and probably we cannot adopt any material course of treatment different in the two cases. Sometimes the neck of the bone is broken, and there is also some kind of fracture or cracking of the trochanter, and the broken neck seems to be driven in between the two trochanters, so as to become locked between them.

There are on the table a variety of specimens illustrating these different accidents. Here is a fracture pretty high up, where the head of the bone is left in the cotyloid cavity. Here is one within the attachment of the capsule, where the membrane is severed through. Here is a fracture within the attachment of the capsule, where the membranes covering it are still partly remaining. Here is another coming pretty close upon the head within the attachment of the ligament of the joint. Here is another fracture of the basis of the neck, part of the membranous attachment remaining. Here are several specimens of fracture of the neck, complicated with fracture of the trochanter. In this instance the neck is driven in among the fragments of the trochanters. Here is another example of the same kind; the trochanter is shattered, the neck of the bone is shortened, the trochanter broken into fragments, and the neck driven in among them. Here is a case in which the upper part of the bone, the neck, and trochanter, broken into fragments. Here is a case where the broken neck is completely driven in between the fractured trochanters so as to be wedged in.

If the neck of the bone be completely broken through, and the membranous investment also divided, it has been found almost invariably that no union takes place in such a case, and that whether you examine the part early or late after the occurrence of the accident, the fragments of the bone are found to be completely disunited. If you examine a case of this sort at a late period after the occurrence of the accident, it seems that the neck of the bone had disappeared. You might almost fancy it had been worn away by the friction between

the ends of the bone; at all events the head which remains in the cotyloid cavity lies nearly in contact with the trochanter major. This is found so commonly to be the result of fractures occurring in that particular situation, that persons of great experience, who have investigated a vast number of such cases, have come to the conclusion that bony union cannot take place. And there are particular circumstances in respect to the position of the fragments of the bone remaining connected with the pelvis, which perhaps tend to explain this impossible, or very rare, occurrence of bony union. If the bone be completely broken through with the membrane covering it, the supply of blood which the head of the bone received from the arteries that ramify on the surface is completely cut off, so that the fragment in connexion with the pelvis no longer receives any vascular supply, except what comes to it through the small vessels passing from the ligamentum teres. The superior fragment then may be said to receive a very insufficient vascular supply after the occurrence of this accident. In the next place, supposing the soft parts to be completely torn through, the fragments of the fractured bone are not held together, and their union is not assisted by that swelling of the periosteum which I have told you constitutes the *temporary callus*, while the consolidation of the broken ends proceeds; and thus the neck of the thigh-bone is differently situated in the case of a fracture from that of every other cylindrical bone of the body; a help or assistance which exists in all the other cases of fractures in reference to connecting the fragments together, while their actual consolidation goes on, does not exist in this instance. Again, the retraction of the body of the thigh-bone, in consequence of the action of its muscles, which I have already described to you, occasions the broken ends not to correspond to each other. The fractured ends (I am speaking of a case of complete division of the neck) do not correspond to each other, and thus another condition for consolidation of the fragments is wanting; and by the motions of the limb and pelvis in reference to each other, there is a constant grating of the broken surfaces against each other, and they are not at any time held in close and complete contact. Now all these circumstances tend to explain why it happens that, in the generality of instances, fractures of the neck of the thigh-bone are not consolidated when they take place under the circumstances I have mentioned.

In some cases, we find that the ends of the fracture, instead of being united, receive a kind of *smooth polish*, which almost forms an artificial joint. Here is a case of that kind. Here is a smooth, polished concavity, on the head of the thigh-bone, and a corresponding smooth, polished convexity of the upper part of the thigh-bone, consequent upon a fracture. And if you compare the head with the shaft, you will find the neck has disappeared; it is entirely gone.

Now the age of the individual in whom this accident takes place, the kind of softening which the neck has already experienced, and the imperfection of the restorative processes in general in advanced age, contribute to explain the want of that restorative power, which is necessary for the consolidation of the fracture. These circumstances, together with the examination of a great multitude of cases, have appeared so conclusive, and operated so strongly on the minds of those who have investigated the subject, that they have declared positively, that the neck of the femur when broken completely through, within the capsular ligament, *cannot* possibly unite by bone. Others have contended, that the neck of the thigh-bone may unite by osseous union, just in the same way as a fracture of any other part. That the want of union arises from the non-adoption of judicious means for the purpose of placing the extremities of the fractures in apposition, and of maintaining them in that situation. They have contended that, if well-devised means were employed for the purpose, we might expect fractures of the neck of the thigh-bone to unite, as frequently, and as favourably, as any others.

Now in order to prove that fracture of the neck of the thigh-bone *can* unite, it would be necessary to show us specimens of fractures that have united; because, if one case be shown, there is an end of dispute on the subject. I believe that the fact can be shown. I believe there are specimens showing that fracture in the situation I have mentioned, *can* be consolidated by bony union; but probably those will not be found to be among the cases of the oldest subjects that have experienced this accident. Mr. Langstaff, who has an extensive collection of specimens of this kind of fracture, under various circumstances, has pointed out in a paper which he communicated to the Med. Chir. Society, that in many instances, processes are found to have taken place in the situation of the fracture, which are the obvious commencement of that restoration, which, if carried further, might have been expected to have ended in bony consolidation. He has shown, for example, that ligamentous union can form between the ends of the broken bone under such circumstances; and, if that can take place, if there is a sufficient vascular supply to the head of the bone, to enable it to perform its function of producing ligamentous union, we can see no reason why the production should not go so

much further as to terminate in osseous union.

We certainly see a change taking place. The surface, that is, the cancellous surface becomes more compact and hard—it is smoother and harder; in fact, the change takes place which obviously implies that the vascular action of the bone is proceeding. In the plate which I now show you, there is the representation of a fracture of the neck of a thigh-bone, which took place in a gentleman with whom I was well acquainted, a member of our own profession, and which occurred at that period of life when the restorative processes are in full activity, so that it was under very favourable circumstances for osseous consolidation. The three upper figures represent the thigh-bone which experienced the accident, and the two lower figures represent the sound bone, in order to show the appearance of the two when placed together. This gentleman was under the age of fifty. He was formerly a fellow student of mine when at this hospital, and he settled at Bourdeaux. He was thrown from his horse, fell upon his side, struck the trochanter, and fractured the bone. He was taken up and carried to a M. Bralsdore, surgeon to a large hospital at Bourdeaux—a person having an opportunity of rendering himself acquainted with accidents of that kind, and apparently well-informed in his profession. This gentleman recognised the circumstances which distinguish a fracture of the neck of the thigh-bone, and the patient was also himself satisfied that such an accident had occurred; he was a well-informed man. He was treated on the plan of *permanent extension*, similar to that recommended by M. Boyer; and, at the end of eight weeks, the fracture was so much consolidated, as to enable him to get up and walk about with crutches. At the end of two or three weeks more, he was able to lay aside the crutches, and to use the limb almost as freely as before, there being no difference between the two limbs, except a trifling shortening of the one to which the accident had happened. In less than a year he died, and an opportunity was thus afforded of examining the state of the bone. The two outer figures represent an anterior and posterior view of the broken bone, the two lower represent similar views of the round bone; and here you will observe that the most perfect osseous consolidation had taken place. The same shortening, and indeed apparent disappearance of the neck, have taken place, which I have mentioned to you as occurring where the neck has been broken, and no consolidation has taken place. You will observe the head is close to the trochanter major. Then, in sawing the bone through, which has been done horizontally, there is a perfect hard line of bone to be seen uniting the fracture, which has clearly become consolidated, so as to render that part of the bone, in fact, as hard as any other part of it. I saw this specimen myself, for it was brought to England by M. Bralsdore, and I could not entertain any doubt that the fracture had passed through the neck of the bone, within the capsular ligament; and it was within less than twelve months from the occurrence of the accident, that the patient could walk nearly as well with that limb as before the accident. This shows that the injury will admit of great reparation under judicious circumstances. Mr. Langstaff has a specimen in his museum of a case of a much older subject, in which there is osseous union, with absorption of the neck; and, in the work of Mr. Amesbury on fractures, there is another case mentioned, which occurred to Mr. Chorley, a surgeon at Leeds, in which a similar union, also with absorption of the neck of the bone, took place. This is a representation of it. You will observe that the neck is depressed, and pushed downwards.

In respect, then, to that particular circumstance of the removal—the absorption or disappearance of the neck, so far as the specimens hitherto exhibiting it go, it would seem that it takes place equally in cases where no osseous union of the broken neck occurs, and in those in which such osseous consolidation is effected.

You will of course equally understand that if the fracture through the neck of the thigh-bone occur so near to the implantation of the neck upon the upper extremity of the shaft of the bone as to be exterior to the point of attachment of the capsular ligament, there should be no reason why the fracture should not become consolidated by osseous union as in other situations. The same reasoning applies to those fractures which extend through the trochanter or upper part of the bone. You will also understand that if the neck be broken, and the membrane covering the greater part of it be left entire, osseous union may take place. And thus, under a multitude of circumstances, you are led to explain the variety of results of cases of this kind.

Now it is properly remarked by the gentlemen who have advocated the possibility of osseous consolidation of the neck of the thigh-bone, that we ought at all events to employ every effort we can to reduce the fracture; that is, to bring the extremities of the broken bone to their right bearings, and to maintain them in position, in order to favour the occurrence of bony union. They observe, that if a fracture of the neck of the thigh-bone be left to itself, if no pains be taken to bring the fractured ends into a proper situation, and to retain them

there, we cannot reasonably expect union will take place. We observed that the osseous union presents circumstances of particular difficulty in these cases; their advice, therefore, seems very reasonable, and we should adopt it at all events to the extent of taking every possible care of bringing into, and of retaining in, apposition, the broken ends; which is allowed in ordinary cases to be of so great importance. The question, then, will occur, what measures we can take in order to facilitate the consolidation of these fractures.

The mode in which the head of the bone is lodged in the cotyloid cavity of the pelvis renders it impossible for us to act immediately on that; we can only act on the thigh-bone and on the pelvis. If we can employ any apparatus in this way, which will completely fix the thigh-bone and the head which remains in the socket in a proper relation to each other, we may accomplish the object in view. Desault and Boyer have had recourse for this purpose to permanent extension, in order to counteract that retraction of the limb which takes place from the action of the muscles. This is found difficult in many cases, and at all events extremely painful; so extremely painful, that patients can hardly bear it, although I should observe to you, that the gentleman whose case is represented in this lithographic print, really did undergo that process, and the result was favourable. It may however, perhaps, be unnecessary to subject the patient to this, as the fracture beds, used by Mr. Earle and Mr. Amesbury, accomplish this extension, particularly the double-inclined beds, which at the same time support the thigh and the leg. On those beds the pelvis rests completely against the lower portion of the superior plane. The portion of the inclined plane which corresponds with the thigh must be of equal length with the sound limb; and in Mr. Amesbury's beds there is a contrivance by which you are enabled to shorten or lengthen the plane. The foot of the fractured limb is confined to the foot-board, which is placed at the extremity of the lower plane, the knee of the patient going over the angle of the inclined plane; and thus as much extension of the limb is kept up as is necessary for overcoming the retractive action of the muscles. The foot-board prevents the eversion of the lower extremity, and keeps it in its proper position. This plan, then, accomplishes three purposes: that of fixing the pelvis, of maintaining the lower limb extended to the same length as the sound limb, and of preventing its eversion. The only other object is to keep the two extremities of the fracture in apposition; and that is done by placing a broad strap round the pelvis; or by putting a common broad splint on the outside of the thigh, reaching above the trochanter, having a strap to go round the pelvis, and confining the lower end of the splint to the lower part of the thigh. Thus you have a force applied in all directions capable of maintaining the fracture in its proper position; and this seems to me to be the best course of treatment that can be adopted in fractures of the neck of the thigh-bone; and it is the best plan of proceeding in those cases generally, whether they are fractures of the neck, or fractures of the upper part of the thigh-bone, but which can hardly be minutely distinguished from each other in the living state. By such a course of proceeding you will at all events give the opportunity of osseous consolidation, a process which perhaps can hardly take place in either case, if this proceeding be not adopted.

Fracture of the superior third of the Femur.—In fractures of the upper extremity of the thigh-bone, below the trochanters, you may have, in consequence of the displacement of the superior end of the fracture, a very serious subsequent deformity, of which the specimen I now show you will give you an example. Here the fracture has occurred just above the trochanter, and the upper extremity of the bone has been drawn so much upwards and forwards, that it has united to the shaft at nearly a right angle; and, in fact, if a fracture takes place any where in the upper third of the bone, the same causes are capable of producing very considerable deformity. This is an example of a similar kind, where the fracture occurred two inches, or more, below the trochanter minor. Here, you observe, the upper extremity has been drawn upwards and forwards, so as to form an angle.

Treatment.—In fracture of the upper third of the thigh-bone, inasmuch as you cannot effectually depress the upper end of the fractured bone, which is drawn upwards and forwards, you must raise the lower extremity to a level with it; and this is best accomplished by the fracture-bed I have just described, which presents a double-inclined plane, giving you the power of bringing that plane to different degrees of elevation, which will enable you to raise the lower portion to a proper level with the displaced upper portion. But, in addition to the condition into which the limb is brought by the double-inclined plane, you must confine it by three splints, an external and internal, and an anterior one, applying at the same time soap plaster, and a many-tailed bandage.

Fractures of the shaft.—Fractures of the *shaft* of the thigh-bone more commonly take place below the middle or in the lower third.

Treatment.—In respect to this, as well indeed as regarding fractures of the thigh-bone generally, a great difference of opinion has prevailed respecting the proper position of the limb. Mr. Pott inculcated the advantage and propriety of the bent position of the knee, with the limb resting upon its outer surface, so that the patient might lie on his side; that the fracture should rest on its external surface on the bed, that the external condyle of the knee should rest on the bed, and that the knee should be about half bent; that is the position which Mr. Pott strongly recommended, and which, from his recommendation and his writing, has very commonly been adopted in England since his time—the half-bent position of the knee with the fractured part of the thigh resting on its external surface. In France, more particularly from the time of Desault, it has been customary to lay the limb in a *straight* position; and I have no hesitation in saying, that if the question is merely between the bent and the straight position, the French plan is the best. The truth is, that patients cannot and will not support the bent position with the body resting on the side, the foot on its external surface, and the knee on its external condyle. You might put a patient into that position immediately after the accident, but he cannot continue to remain in it for a long time. The pelvis sinks down, the patient gets on his back, the limb remains on the side, and the consequence is, that the thigh-bone unites in an improper way, and the knee and foot are permanently turned outwards or everted. The straight position avoids this inconvenience, for when you have done up the fracture, and placed the limb in the straight position, you may at all events calculate on the patient remaining on his back, although he cannot long continue in the awkward position of lying on his side. I believe general experience has offered proof pretty decidedly in favour of the straight position. There is, however, another kind of posture, which has lately been very much adopted in this country, and that is the bent position, with the patient lying on his back, employing the double-inclined plane, and the extremity placed in a position similar to that which I have explained as proper in the case of fracture of the neck of the thigh-bone. This double-inclined plane is often employed in distant parts of England, by using two boards, one for the thigh and another for the leg, to which it is always advisable to add a foot-board. With this double-inclined plane, the employment of splints, lateral and anterior, must of course be adopted.

Fractures of the inferior extremity.—In fractures of the *lower extremity* of the thigh-bone, the circumstances attending them are various.

Treatment.—When the fracture extends through the lower part, when it is a comminuted fracture into the joint if the fragments are not displaced, it is not very material, I apprehend, whether the limb be placed in a straight or in a half-bent position on the inclined plane. It is said, that by putting the limb into the straight posture, the pressure of the lower extremity, of the tibia more particularly, fixes and keeps in a proper situation the broken fragments of the femur. In this case, when the two condyles of the femur are split through the middle, you might have a displacement of one of them, and the proper position of the tibia might certainly keep them more opposed to each other. However, when fractures happen of the condyles, they are not attended, I think, with much displacement. At all events, I have seen several cases of fractures passing through the knee-joint, where patients have done very well, when they have been placed on the half-inclined plane. Those I now show you, are two cases where the fracture passes perpendicularly through the middle of the cavity that holds the patella in its situation. Here is a specimen where one of the condyles is broken through at its thick part. Here is another of comminuted fracture of the lower part of the bone, and of fracture of the condyles.

In these instances you may expect that there will be inflammation of the synovial membrane of the knee-joint, increased secretion from that membrane, and more or less of swelling and redness of the joint. You must, of course, adopt proper antiphlogistic means to combat those symptoms, and when they are properly removed, then you adopt the means necessary for confining the fragments of the broken bone in a right position. Although such cases very often present rather formidable appearances during the active disturbance produced in the joint from this mechanical injury, you find that, under judicious antiphlogistic treatment necessary for removing those symptoms, the cases do very well. You will, of course, be aware of the necessity in these instances, of what I have had occasion to mention with respect to fractures of the olecranon—to give passive motion to the joint three or four weeks after the occurrence of the accident, for the purpose of preventing any thing like stiffness or partial anchylosis.

Lecture LII.

Treatment of Fracture of the Femur continued.—Fracture of the Patella; Symptoms; Treatment.—Complicated Fractures, and Treatment.—Simple and Compound Fractures of the Bones of the Leg, and Treatment.—Fracture of the Bones of the Foot, and Treatment.

Fracture of the Thigh.—In the last lecture I mentioned to you the employment of the double-inclined plane, and I then spoke to you of placing the fractured extremity in an inclined position, on a bed particularly adapted for the treatment of fractures of the thigh-bone, the bed itself being so arranged as to admit of the limb being placed on a double-inclined plane. I mentioned to you the fracture-beds that have been devised by Mr. Earle and Mr. Amesbury. Now, you may use the double-inclined plane on a common bed. One of these beds is not *absolutely necessary* in order to place a fractured limb in the required position; you may obtain the double-inclined plane independently of that particular form of bed. What I now show you is a contrivance of this kind, to which a strap, or band, calculated to fix the pelvis, is attached. You observe, that a double-inclined plane is here obtained for the lower extremity, this part being adapted to the thigh and this part to the leg. You will understand, of course, that when an addition of this kind to the bed is used, pads are placed over the wood, in order that the limb may lie easily. You will see that this apparatus is so contrived, that if care be taken, it presents a greater or lesser angle at the edge which corresponds to the ham, and that part which corresponds to the thigh is so constructed that its length can be increased or diminished at pleasure, so as to accommodate the board to different individuals. In the first place, the length of the part on which the thigh is to rest must correspond exactly with the length of the sound limb, the apparatus for which, underneath, enables you to lengthen or shorten the various parts, and is very simple. Then the foot-board can be placed at appropriate distances by means of the holes which you here see in the lower parts, so as to make that part correspond with the exact length of the leg. The lateral pegs may be of use to retain the leg in any one part. Then the other end, facing the posterior part of the thigh, fixes against the tuberosity of the ischium, and this band goes round the pelvis to keep that part of the body steady. There is another band used for the purpose of fixing the other portion of the thigh; so that, as far as it can be accomplished by this instrument, you render the thigh, the leg, and the pelvis, fixed. This, however, is more completely effected when you place the patient on such a bed as described; though, in practice, we are often obliged to make up with contrivances; and, in cases of necessity, any carpenter can put together for you two portions of wood of the requisite length, together with which you employ the proper splints to retain the parts of the bone in their proper position.

Fracture of the Patella.—In the great majority of instances the fracture of the patella is *transverse* and *simple*; the bone is broken straight across, and, generally, in one place. It may, however, be broken *longitudinally*; it may be broken *obliquely*, and it is also susceptible of *comminuted* and *compound* fractures. But the latter, that is, the oblique, the longitudinal, the comminuted, and the compound, are rare fractures, while the simple transverse fracture is of frequent occurrence. The oblique, the longitudinal, the comminuted, and compound fractures of the patella, are effected by direct violence, immediately acting upon the bone, such as a severe blow on the front of the knee-joint, or a heavy fall when a person comes to the ground upon the patella. But the common kind, that is, the simple transverse fracture of the patella, is produced by the action of the muscles that are affixed to the basis of the bone, the extensor muscles of the knee. A person, in walking, being in danger of falling, by the heels slipping from under him, makes a violent effort to save himself, just as the heels are slipping forward, and when the knee is somewhat in the half-bent position; he exerts the extensor muscles of the thigh to the utmost of their power to bring the thigh, the whole of the trunk, forward over the feet to save himself. Under these circumstances the patella is forcibly drawn by the extensor muscles against the interval between the condyles of the thigh-bone; in this position the patella, supposing the ligament to be here, instead of this bit of tin, where I now put my finger, would project a little above the edge of the trochlea of the femur; therefore, it snaps off as a piece of stick would, by the peculiar, convulsive action of the muscles of the thigh. It is a simple muscular effect, and explained with reference to the situation of the patella and the femur. The bone being held firmly at the lower part, and the extensor muscles suddenly drawing it upon the edge of the trochlea, the bone is snapped, just as a piece of stick would snap when forcibly struck against the edge of a table. You will see that when the extensor muscles of the knee-joint are put into action, in order to draw the thigh forward for the prevention of a fall, the whole weight of the body is carried forward, and it is this violent action that causes the frac-

ture. When the patella gives way thus, the patient falls to the ground, so that the fall on this occasion is the consequence of the fracture; the fracture does not take place in consequence of the fall.

Symptoms.—The symptoms of this fracture of the patella are, inability on the part of the patient to move the joint; the same want of power over the motion of the knee-joint is felt as we observe with regard to the motions of a limb when the main bone of that limb is broken. The patient falls; he has no longer the power of moving the part; more or less of pain is usually experienced in the knee; and, on examination, in consequence of the surface of the patella being covered merely by the skin and thin aponeurosis, we immediately recognise the division of the bone; we discover the fissure, or separation, which has occurred; we can feel with the fingers the interval between the two pieces of bone, which is sometimes so considerable as to admit of a finger being laid in it. The separation that takes place under these circumstances is considerable, from the superior fragment of the patella being drawn upwards by the contraction of the extensor muscles. The extent of this displacement, however, varies very much, from the circumstance that the fibres covering the patella, and the lateral attachments of fascia, are, in some instances, completely broken through, while in others they are not divided at all. If these be not divided, there may be a mere fissure between the fragments; there may be no retraction of the superior fragment; but if they be extensively detached, you may have the superior fragment drawn up from the inferior, half an inch, an inch, two, three, or four, inches, or even more; you may have a very wide interval indeed between them.

Treatment.—This interval you find you can diminish considerably, by the position in which you place the limb. If you put the knee in the extended position, and if you also bend the thigh on the pelvis, you thereby relax all the muscles attached to the patella, and consequently you diminish the interval between the inferior and superior fragments; the former of which, so far as regards the tibia, remains always at the same distance. Of the muscles that are attached to the basis of the patella, the principal, the two vasti and cruralis, which cover the sides of the thigh, are completely relaxed by the extension of the leg; but the fourth, the rectus femoris, is only relaxed, when you bend the thigh on the pelvis. Then, when you have all the muscles relaxed as much as possible, (which is to be obtained by the extension of the knee, and the bending of the hip-joint,) that is the position in which the limb is to be placed, in order to favour the approximation of the broken ends of the bone; and the patient is to remain with the limb so placed, until the process of union is complete.

In a great number of instances, you will find that the broken portions of the patella are so nearly approximated by this position of the extremity, that you gain no further advantages by the application of bandages, or apparatus of any kind. You may therefore, in many cases, treat the fracture of the patella by simple attention to position. When the knee is in the extended state, you certainly can obtain no advantage so far as the approximation of the broken portions of the bone is concerned, by any thing you can do to the lower half of the patella. The latter is connected to the tuberosity of the tibia by a ligament, which does not admit of extension or contraction, and, therefore, remains permanently the same; the upper end, connected with the muscles, may indeed be drawn downwards towards the lower, as it is more or less elevated, according to the action of the muscles connected with it. The application of bandage, and pressure from above, therefore, may contribute to depress the superior fragment; and the interval between the two fragments may certainly be increased by motion of the inferior limb; that is, if you were to bend the knee-joint, you would increase the interval, by removing the inferior to a distance from the superior half of the patella. You observe, that in the skeleton, I make an interval of more than two inches, in this situation, by simply bending the knee. You may, therefore, increase the interval, as I have said, by bending the knee-joint, but no person would think of bending the knee, in a case of fractured patella. When, therefore, the knee-joint is straight, you can do nothing more, so far as regards the inferior fragment, and all your attention is directed to the superior one. In a great many instances, then, you will find that position, without any bandage or apparatus, will bring the broken ends of the bone, as nearly in contact as you can have them. Frequently, a broken patella is bound up by a *figure-of-8* bandage, crossed above and below the patella in front, and going behind the ham, so that the two portions of the figure of 8 encircle respectively the inferior and upper parts of the patella, the decussation taking place in the ham. Boyer recommended concave splints, adapted to the superior surface of the lower half of the thigh, the knee, and upper part of the leg, occupying, therefore, about two-thirds of the limb; with brass knobs on each side, and two straps coming from the one to the other, one above and the other below the fragments, circumscribing the parts in an elliptical form. The limb, then, must be kept for five or six weeks in this attitude, with or without the

assistance of apparatus, as we find necessary; and in that time, you will find the union of the patella to have taken place, though it will not have become strong enough to enable the patient to use the limb, to lean upon the joint, and to put in action the muscles which are inserted into the patella. The patient ought not to begin to exert those muscles, particularly if he be an elderly person, in less than a couple of months. We find, that before the end of that time, the parts are not united by bone, but that the two broken portions are joined together by ligament, and if the patient begin to use the limb earlier, the ligamentous union will become elongated, and the interval between the two fragments increased. There are specimens here, showing this kind of union. Here is a broken patella, where you see the union by ligament: the superior and inferior fragments are obvious; the ligamentous substance is seen uniting them. Here is another, in which you have a view of the flat surface, and can observe the broken portions joined by ligamentous substance. Here is a case, which, certainly, is not meant to illustrate the good surgery that has been employed; there is an interval of four inches between the fragments of the bone; and you see, that a thin substance only connects them. In some of these specimens, the ligamentous substance is as thick and as strong as the bone itself, but here it is very thin.

The strength, therefore, of the ligamentous deposition, which connects the two portions of the fractured bone, depends a good deal upon the degree of approximation obtained between the fractured portions. We may say, that if these are separated only to the length of an inch, they will become united by a very firm ligamentous substance, and that the patient will recover nearly the complete use of the knee-joint, and the power of the extensor muscles connected with the articulation; but, when an interval comes to be extended beyond that distance, you have so thin a ligamentous stratum uniting the bone, and the relaxation of the muscles of the thigh is of course so great, that the power over the knee-joint is very much diminished, and the patient is rendered a cripple for life.

The circumstance of fracture of the patella not uniting by bone, seems to arise simply from the two fragments not being brought closely together. I fancy there is nothing in the situation or structure of the patella that in itself would render the bony union impossible. The only peculiarity that we can observe here, is, that we do not generally succeed in bringing the broken extremities of the bone into actual contact; in fact, to show that bony union may occur, it is only necessary to mention that in some rare instances the patella has been united by bone. There is an instance of the sort mentioned by Boyer; and, in fact, in the work which I have here, there is a representation of a patella which was united by bone—I now show you the view of it. This exhibits a part of the fracture, but the anterior surface of the bone is nearly complete. I should observe that, in this instance, the length of the patella, by measurement from its superior edge to its inferior edge, exceeded that of the opposite patella by half an inch; so that although bony union took place, there was elongation of the bone. Some two or three cases have occurred in which osseous union has taken place. I may also observe that when the patella is fractured longitudinally there is no separation of the fractured portions. It then unites by bone.

Now, as the patella forms a portion of the knee-joint, you will not be surprised at finding that, when broken, a considerable degree of inflammatory action is experienced in the knee-joint; that the joint becomes swollen and hot, and that effusion takes place from the inflamed synovial membrane. In fact, the occurrence of inflammation to a certain extent is a very common circumstance. You are not to place the joint in the position which it is permanently to occupy during the process of union, until you have removed that state of inflammation. You should, therefore, in the first instance, keeping the joint extended, apply leeches if necessary, lotions and other requisite means. You may find it necessary to continue these for two, three, four, or more, days before applying such bandages or apparatus as you may deem expedient. You remove the inflammation of the joint before you commence the means that are necessary for the consolidation of the fracture.

Complicated Fractures and Treatment.—In the case of other fractures of the patella, the inflammation which injury to the soft parts excites, and the possible or probable ultimate effects of that injury, are circumstances of more consequence than the state of the bone. The first point, therefore, in these other fractures of the patella, is to adopt all the means that we should deem necessary in the case of a serious wound of an important joint,—to use such antiphlogistic means as are requisite to prevent or remove inflammation. If there be a *comminuted* fracture of the patella, with an external communication rendering it also a *compound* fracture, of course the case is a very serious one. A penetrating wound of the knee-joint, or of any great articulation, is at all times serious, and it is, of course, not rendered less so by a comminuted fracture of the bone. It has sometimes been supposed that this is a proper case for immediate amputa-

tion; but we are not to regard it in that point of view. It is a very serious case, and amputation *may* become necessary; but there are instances in which compound fracture of the patella, with a comminuted state of the bone, has been cured, leaving the patient merely with a stiff joint. You cannot expect the patient to retain the entire use of the joint after such an accident, and if the inflammation should subside, if certain portions of the fractured patella should come away, and no other injury should be the result than anchylosis of the joint, the patient comes off very well. Such a case has occurred. There was an instance in this hospital, in which a patient had compound fracture of the patella, and recovered thus far; he has now such a limb as enables him to go about; he has the use of that limb pretty well.

Fracture of the Leg.—In fractures of the leg we may have the two bones broken together, or we may have them broken separately. The most frequent case perhaps is the *fracture of the two bones* together, when, in addition to the irregularity in the bones themselves, there will, of course, be more or less change of figure—deformity of the limb in which the accident has occurred. When the two bones are both broken, it does not follow that they were broken at the same time. The tibia sustains the weight of the body; the fibula has nothing to do with it; therefore, the tibia probably breaks first, and the patient continues to move upon the limb, not aware of the extent of the accident, and the motion that takes place after the occurrence of fracture of the tibia, will perhaps cause the fibula to break. But then it will break at its weakest part—it does not follow that it should break exactly in the same place where the fracture has occurred in the tibia. Here is an example in which the tibia and fibula have both been broken; the tibia has been broken at its lower third, that is, about three inches above the ancle, and the fibula has been broken about a couple of inches below the knee. Here is another instance where both the bones have been broken in different situations. Here is another in which the fracture has occurred in the corresponding parts of each bone.

Fracture of the Tibia.—The tibia may be broken transversely or obliquely; it may be broken in different parts, that is, it may be comminuted, and the fracture may be simple, or it may be compound.

In the case of a *transverse fracture* of the tibia, we do not find any displacement of the broken ends, and this more particularly, if the fracture take place towards the upper part, that is, in the neighbourhood of the knee-joint, where the bone expands in size, and the fractured surfaces are of course larger. These fractures, however, are, frequently, in some measure serious, in consequence of their probable extension, as is often the case, into the knee-joint. When the fracture of the tibia is oblique, it usually slants from above downwards, and, at the same time, from without or behind, inwards or forwards; that is the direction in which the obliquity is observed; so that when the fractured extremities are displaced, which they often are, to a considerable extent, the sharp end of the superior fragment passes against the integument covering the skin, penetrates it, and thus converts a simple into a compound fracture. Indeed there is so much tendency to displacement from the action of the muscles of the leg, particularly the powerful muscles of the calf, that when the tibia is broken obliquely, the fibula being fractured at the same time, it is difficult entirely to remedy the displacement. The strong muscles of the calf acting on the os calcis, tending to draw the foot upwards and backwards, displace the lower part of the bone, and carry it behind, so as probably to occasion the two portions to form a very marked projection or deformity forwards.

Treatment.—The mode of treatment which is usually adopted in fractures of the leg, is that of placing it in a position in which the knee, the leg, and foot, are laid on their outside, with the knee in the half-bent position; this is, in fact, the attitude that has been recommended by Mr. Pott; and the objections which I made to the half-bent position of the limb lying on its outside, in fractures of the thigh-bone, do not apply to the same position in cases of fractures of the leg. This bent position of the leg relaxes the strong muscles of the calf, which come from the back of the femur, and those are, perhaps, the muscles which have the greatest power in displacing the fractured ends. I think, therefore, you will find that position of the limb to be altogether the most convenient. The outer side rests on a broad splint, which is nearly flat, and reaches from the upper edge of the knee down to the foot, having a foot-piece connected with it; and there is another splint to be applied, extending from the inner condyle of the femur down to the lower part of the foot. The splints are padded, that they may sit easily on the limb. The fractured part is covered by soap plaster, and the limb is bound up with a many-tailed bandage. This is a convenient, and, in many cases, beneficial mode of retaining the fractured ends of both bones of the leg in contact.

If the tibia be broken alone, the fibula remaining entire, you will easily perceive there can be no material displacement of the fracture, and therefore the position I have

just recommended, together with the apparatus alluded to, will answer for such an accident.

The fibula is, not uncommonly, broken alone, without the tibia participating in the accident. This may happen, either in consequence of some violence directly offered to the fibula, that is, some blow upon the bone fracturing it at the point of contact; or it may happen in consequence of a twist or dislocation of the foot. In the former case, that is, if the fibula be broken by direct violence applied to it, there is of course no displacement of the foot—that remains in its natural position. Sometimes there is considerable difficulty in detecting a fracture of the fibula, for that bone is so covered with muscles, that we cannot trace it with the hand throughout its whole length, nor detect crepitus. The circumstance of the patient having met with an accident, the particular nature of that accident, the sensation in some instances of a snapping or giving way of the bone, an inability to use the limb, with a particular pain on touching or pressing it—these are the circumstances that must guide us in doubtful cases. If we are unable to decide, it is better to treat the case as if the fibula were fractured, and to let the patient go through the same process as is customary in that accident.

The fibula may be fractured in consequence of the dislocation, or twisting outwards or inwards of the foot. The lower extremity of the fibula constituting the external malleolus, is applied to a considerable portion of the surface of the astragalus; now, if the foot be twisted outwards, you will observe, that a great power is applied to the inferior portion of the fibula, and you will not wonder that it yields at its lower part. If the foot be twisted inwards, a similar accident may occur. The ligament connecting it to the os calcis and lower part of the astragalus, is forcibly drawn inwards, and thus it will happen that the fibula may be broken, perhaps at a distance of two or three inches above the ancle-joint, not directly in consequence of force applied to that part, but merely from the twisting of the foot inwards or outwards; so that in this case you have the fracture of the fibula with more or less dislocation of the foot. This is a kind of fracture that happens in the lower part of the fibula, in that part where it is covered by little more than skin and integument, and where, therefore, detection by the hand is more easy. The lower end is more moveable under these circumstances, and you can with little difficulty ascertain the nature of the accident. Perhaps by passing your hand over the part where the pain is experienced, you can detect the crepitus.

Treatment.—When the fibula is broken by a blow, you may place the foot in the position I have mentioned; but if it be twisted outwards or inwards, it may be necessary that you should enclose the foot as well as the leg; that there should be a foot-piece to that on which the leg lies on the outside, as well as to that which lies on the inside of it, by which means the foot may be kept in a proper position with respect to the bones of the leg; you judge of this by the direction which the great-toe bears in reference to the patella. When the great toe is in a straight line with the inner edge of the patella, then the foot is in a proper position. At all events, either by this or some other contrivance, you must attend to the situation the foot bears with respect to the fractured portions of the fibula, and to the state of the leg generally.

Compound Fracture of the Leg.—With respect to compound fracture of the leg, which is the most frequent *compound* fracture you will have to treat, the general observations I have made to you respecting compound fractures, are particularly applicable. I need not, therefore, go over those remarks again minutely. In the first place you should place the limb on a soft cushion, and adopt the means necessary for reducing inflammation, before attempting to confine the limb between those hard unyielding substances called splints; for possibly you will find sometime after the accident, that the straight position of the limb on a soft cushion in a fracture-box will be much easier to the patient, and much more likely to accomplish the object in view, than the application of any splints. You will find this straight position of the limb, and the use of the fracture-box, are proper at first in compound fractures, as these are attended with contusion, ecchymosis, and swelling, so that, under common circumstances, the application of splints, and confinement of the limb, must be delayed for some time after the accident has occurred.

The mode of managing fractures of the leg, which I have now mentioned to you, provides only for the confinement of the leg and foot; and it may be said, that in order to maintain the extremities of the broken bones in their proper position, and at the same time to keep them quite immoveable, the knee also should be subjected to confinement. Mr. Amesbury, whose observations on fractures I have had occasion to mention to you many times, has a plan of treating fractures of the leg, and also fractures of the lower third part of the thigh, in which the apparatus embraces both the leg and the thigh, and indeed the foot, so that the whole lower extremity is rendered nearly immoveable. He represents, that when fractures are treated in this way, the patient is enabled at an early period after the acci-

dent to move the limb, to change its position, and that even at a comparatively early period he can get out of bed and walk about, not bearing on the limb of course, but moving it by means of a sling-suspended round the neck, by means of which the whole limb is moved together. Whether or no such a mode of treating fractures of the leg is preferable to the ordinary mode must be decided by experience, the result of which is not perhaps as yet sufficient to settle the point. That it is not easy always to keep the extremities of the broken bones in absolute apposition, so as to produce an union that will be free from all deformity, you may satisfy yourselves from several specimens that are now before us. This is a fracture of the leg, apparently towards the lower part of the superior third, where, although the broken bones do not seem to have been very materially displaced, there is considerable irregularity in the union. Here is a fracture a little above the ancle-joint, where there has been a degree of displacement, and as you see the bones, you make the lower extremity of the tibia appear a good deal deformed, the union appears to be very slight, yet the leg, no doubt, was useful for all common purposes. Here also is a specimen of one of those fractures, which we must consider the most favourable for union; that is, a *transverse* fracture, but yet the limb does not seem to be quite straight. Here you observe that the fibula has been bent; and at the point of fracture, the bone seems almost to have formed a preternatural connexion with the tibia. Here is a fracture in the oblique direction, which I have already pointed out to you. There is enough of irregularity here to be very conspicuous on the surface of the shin, though the general line of the bone is not much interrupted.

I should mention to you, that when fracture occurs in the lower part of the tibia, near the ancle-joint, it not uncommonly happens that the injury extends into the articulation; and it is by no means uncommon to have either the internal or the external malleolus broken, in which case the fracture must, of course, extend into the joint. These occurrences, if not complicated with an external wound, are by no means of any particular consequence. They may occasion a degree of swelling and inflammation of the joint, and may render it necessary to use leeches, and other means for checking inflammation; but the cases will go on nearly as well (except as far as the employment of those means are requisite) as any ordinary fracture would do.

Fracture of the bones of the Foot.—The bones of the foot are very little susceptible of fracture. I should, however, have mentioned to you one point which I have not described, respecting fractures of the leg, and it is a point of some consequence. The three large arteries which run along the leg, the anterior tibial, the posterior tibial, and the peroneal artery, run all three of them very closely in contact with the bones of the leg; they run so near to them, that they are certainly very liable to injury in the case of fractures of those bones; and the complication of a wound of one of these vessels adds very much to the difficulty and seriousness of a case of fracture of the leg. You, perhaps, may not be aware of the occurrence of any injury to the vessel immediately after the accident, but you may have hæmorrhage coming on at some distance of time. I remember the case of a man about forty-five years of age, who came into this hospital, under my care, in consequence of a fracture a little below the middle of the leg, produced by a heavy piece of timber falling on the limb. It caused a comminuted fracture of the bone: the bone was broken at more places than one. The limb was placed in a fracture box. It was necessary to employ leeches repeatedly, after which the case was proceeding favourably. He came in on the 10th of September, 1825, and on the 19th of the same month, one pretty considerable fragment of bone was so far loosened that it was removed; it was about an inch in length, and it was a portion embracing the whole thickness of the wall of the tibia. In two or three days afterwards another very considerable fragment was removed, so as to show that it was a case of serious fracture. I think it was on the 28th of September, that is, more than a fortnight after the accident occurred (and when the case seemed to be going on very well), that it was found in the morning he had experienced a considerable loss of blood during the night; more than a pint of blood was found in the fracture-box when the house-surgeon saw him. On examining the wound he found a sinus extending in a particular direction, which he divided, and after doing this the hæmorrhage was renewed—the man again lost a considerable quantity of arterial blood, which seemed to arise from the whole depth of the wound, which was situated on the anterior part of the tibia. When the wound was exposed to the air, and cold cloths were laid over it, the hæmorrhage ceased. On the 3d, the 4th, and 5th days of October he had recurrences of hæmorrhage, not to any great extent, decidedly of arterial blood. Having consulted with my colleagues on the subject, we determined that it was a case in which amputation ought to be performed. I should observe that we had accurately examined the state of pulsation below the situation of the injury, and found that the anterior tibial artery pulsated very strongly on the back of

the foot, so that we concluded the hæmorrhage proceeded from one of the posterior arteries of the leg; therefore we did not think of making any attempt at securing the anterior tibial—the anterior tibial pulsated on the back of the foot, just as plainly and as strongly as it did in the opposite foot. I removed the limb of this poor man below the knee, and afterwards examined it. I found, contrary to the opinion we had formed, that the anterior tibial artery was the source of the hæmorrhage, that the current of blood through the anterior tibial artery ran directly over the sharp anterior edge of the broken bone, from which the fragments I have alluded to had been removed; so that the artery had gradually ulcerated through at the part where it lay on that sharp edge of the bone, and there was an opening there about large enough to admit the end of a probe; and no doubt it was from that that the hæmorrhage had proceeded. All the three arteries presented a particular appearance; the internal coats were more or less thickened, and had throughout them, at very short intervals, thin scales or plates of ossification, so that in cutting through them, the knife grated as if cutting through thin pieces of bone; and this is a circumstance not uncommon in the arteries of persons of that age. I remember another instance of a gentleman who met with a simple fracture of the leg; he was thrown from his horse, by which accident the leg was fractured, and considerable injury was done in the way of bruises and ecchymosis, as well as the fracture, so that it was necessary to bleed him, to apply leeches to the leg, and to adopt other antiphlogistic means. In spite of those measures, however, the limb continued swelled, and a good deal of excitement was kept up in the system, although the means of depletion had gone as far as we deemed it expedient to carry the adoption of them. On examining the limb, I thought that I felt a fluctuation, or softness, in one part of it, which led me to entertain an idea that there might be blood diffused, or that, probably, matter had formed, and I made a puncture pretty deep in the situation where I felt the fluctuation; but instead of any matter coming through the opening, there was a considerable escape of arterial blood; it stopped after a time, and was again renewed in that spot, and I entertained no doubt that it was from a wounded artery. I requested that the opinion of another surgeon might be taken in this case, as to the course that it would be necessary to follow, considering myself, from all I had seen, that amputation of the limb must be had recourse to. Some little delay occurred before one of the individuals whom we wished to see the case arrived; in the mean time the limb was laid open and exposed to the cold, and there was no bleeding, nor had there been any bleeding from the time when I determined on the necessity of the amputation; so that we resolved, in the end, that it should stand over; and in this case the swelling subsided, the state of excitement went off, and there was no ultimate necessity for amputation, although it was pretty clear that some considerable vessel had been wounded.

In the *foot*, the bones are so little liable to fracture that we have not much to remark on the subject. The *os calcis*, however, projects so much from the rest of the foot, and is so much exposed to external violence, that it may be broken. I fancy, however, that it is an uncommon occurrence, at least I have only seen it in one instance; and that was in the case of a gentleman who had been riding outside a stage down Holborn Hill. The horses in the coach took fright, or he took fright, and thought he was in some degree of danger; accordingly, he took it into his head to jump from the coach, and alighted on the pavement on his heels He was rather heavy, and he fractured the os calcis, breaking the posterior part of the bone, which was drawn off by the muscles of the leg. There was an obvious displacement of the bone, an inequality which rendered the nature of the accident perfectly clear. When the knee was bent, and the foot extended, so as to relax the muscles completely, a crepitus was felt between the broken fragments of the bone; this case did perfectly well. The limb having been kept in the attitude I have mentioned, the knee bent and the foot extended by a splint fastened along the anterior surface, this gentleman recovered a very good use of the limb, having, however, for awhile something of a halting gait when he walked. I think we have a single example of fracture of the os calcis in the Museum, where the bone is broken, but not completely through, just below the attachment of the tendo achillis.

The other bones of the tarsus cannot be broken except in consequence of an accident of a very serious kind, attended with considerable crushing of the bones of the foot, and if those of the *metatarsus*, ortoes, are broken, the nature of the accident will be sufficiently obvious, and the mode of treatment very simple.

MEDICAL SOCIETY.

An association of professional gentlemen of Poole and the neighbouring towns, has been formed in the county of Dorset, under the name of "The Western District Medical Society," for the purpose of promoting medical science; Dr. J. Taylor, of Poole, President, and Mr. T. Cave, Secretary.

THE GIBRALTAR FEVER.

To the Editor of THE LANCET.

SIR,—I have to apologise to you and to Mr. Wilson for the delay which has taken place in transmitting these interesting papers to your office; the pressure of previous engagements has entirely engrossed my attention since their arrival from Cadiz, and prevented me from complying with the directions which accompanied them. The subject of this communication will be included under a different form in the next edition of Dr. Hennen's valuable work on the "Topography of the Mediterranean." Whoever is curious on the subject of epidemics, will meet, in that book, with a full account of all the influenzal affections which have, on various occasions, desolated the territory of Gibraltar, from the earliest period to which our records reach, down to the present time.

The controversy respecting the imported or endemic nature of this disease, seems hardly yet decided, and I think it would not be irrelevant here to introduce a quotation from my late excellent friend's summary, of the arguments respectively adduced by the contagionists and by the anti-contagionists.

"The contagionists assert—1st. That for more than a century, no such disease as the fever of 1804 ever existed at Gibraltar. If atmospheric causes had produced the complaint, it must, they assert, have been carried to Gibraltar in 1800 and 1803, when it prevailed at Cadiz and Malaga, neither of which places was more than fifty miles distant in a direct line.

2nd. "That if it were not contagious, a good police and quarantine regulations could have had no influence in altering its nature, or obviating its entrance into the garrison.

3d. "That its importation was traced to certain individuals arriving from places affected with a similar disorder.

"4th. That its communication was satisfactorily traced from one particular spot at first, and from persons frequenting that spot; and that its progress was continued through families when once introduced.

"5th. That persons who once had the disease, were not affected a second time; analogous to the exemptions in plague, small-pox, and other diseases of that class.

"Or to sum up all in one.—

"6th. That the disease was one "sui generis," highly contagious, attacking the human frame but once, of foreign origin, capable of being propagated in countries enjoying a certain degree of heat, and which may at all times be prevented in Europe by quarantine laws, and a well-regulated police."

The name applied to the disease by Mr. Pym, is "Bulam fever."

"The anti-contagionists assert—1st. That fevers of this description have always existed, more or less, on the coast of Spain, and that their non-appearance at Gibraltar, to the violent extent they did in 1804, proceeded from local and atmospheric causes.

"2nd. That quarantine, with foreign countries, has not had any share in the exclusion of the disease; and that police only operated on local circumstances.

"3d. That the proofs of importation have altogether failed.

"4th. That the supposed communication amongst individuals frequenting one particular spot, is fully explained by these persons having all been exposed to the operation of the local causes.

"5th. That the non-liability to a second attack is not a universal law, although a very frequent result; that this result is not confined to this fever alone, but is common to every continued fever of hot climates, and depends upon certain peculiarities of constitution produced by a residence in them.

"Or to sum up all in one.—

"6th. That the fever of Gibraltar was not *sui generis*, was not contagious, did not come under the universal law of attacking but once, was of domestic origin, and was not capable of being imported, and consequently not an object of quarantine; and lastly, that no such distinct disease as "Bulam fever" ever existed.*

There are three propositions which Mr. Wilson labours to prove in his paper. Two of these are negative, and one positive. 1st. The disease was not imported. 2nd. It was not communicable by contact. 3d. It was produced by malaria. The principle of non liability to a second attack Mr. Wilson cedes to the contagionists. Whether his conclusions are cogent or not, your readers will judge for themselves; but I shall, without declaring my own opinions, adduce a few facts which would seem to favour his side of the question.

During the first century of our possessing this garrison, the population was thin, and no epidemic appeared, except during the siege of 1727, when a very fatal dysentery broke out among the troops. This arose from bad provisions and confinement, and immediately ceased on the raising of the siege. The following is a correct statement of the civil population at the periods mentioned.

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* Vide Hennen's Sketches of the Medical Topography of the Mediterranean. Underwood, 1830.

In 1754.....	1800
1791.....	2885
1801.....	5339
1807.....	7501
1811.....	11173
1813.....	12423
1814.....	10136
1816.....	11401
1817.....	10737
1826.....	15480

and with the addition of the military population, the last total formed a sum of 20,570 souls, recorded in the government registers. From this table it is evident that the rapid increase of population has only taken place since the commencement of this century, an era coeval with the first occurrence of fevers.

That department of the police which regulates the admission of strangers, is entirely composed of foreigners who are notoriously remiss in the performance of their duties. Nothing was more easy than to elude the vigilance of the "Inspectors of Strangers," and hundreds, nay, I have heard it stated by respectable persons, that even thousands have entered the fortress in this manner, without "permits," and have resided there undetected by the internal police, swelling the population to a much greater magnitude than the census would indicate. Those who have closely watched the system of quarantine pursued in this garrison, have observed that the long immunity from fever which had been enjoyed, had engendered a feeling of careless security, which rendered the functions of this department little more than nominal. There is no doubt that persons labouring under fevers and other prohibited diseases, have frequently been smuggled within the fortifications, and thus doubly contributed to impair the salubrity of the place.

A disease presenting all the characters of the epidemic malady, was seen in several cases in the autumnal months of 1825, 1826, and 1827. These occurred principally in the filthy habitations of the poorer Jews, who were crowded together in an incredibly small space. The stench of their dormitories at night was intolerably offensive, and abundantly sufficient to produce in persons, even of good constitution, a fever of no slight type. Mr. Amiel furnishes us with an account of these receptacles. "The ground for building being very dear, and house-rent excessively high, cellars and stables have been converted in many places into dwelling houses, to receive numerous families, without any regard to their health or accommodation; and in other places a great number of sheds have been constructed in such a manner as to preclude access to ventilation, affording besides, materials for putrefaction, by the decayed state in which they are frequently left. To overcome the excessive price of house-rent, the poor labouring classes of people have been compelled to crowd themselves in the same apartments, where it is not unusual to see *three rows of beds, one above another, while some are lying on the floor*, which is in general badly paved, and always damp." During the summer season the men generally sleep on their thresholds or entirely in the street, the mildness of the climate and regularity of the weather presenting no obstacles. If the rainy season set in in autumn, before the sun has arrived in Capricorn, the atmospheric heat and moisture combined with the curtailment of respiratory space, may well be supposed to exercise no genial influence on the human frame. In such conjunctures it is that the bilious remittent fever generally emerges, and such an occurrence took place in the autumn of 1828.

From all these facts the anti-contagionist draws the conclusion that the long exemption which this garrison enjoyed from epidemic fever, is not to be ascribed to the operation of partially-executed quarantine laws, but to the absence of a sufficiently general cause of local origin, such as a powerfully morbific malaria, acting on a dense population; and certainly it must be admitted by both parties, that this is a corollary which it requires a curious train of reasons to invalidate. I am, Sir, your obedient servant,

D. O. EDWARDS.

Westminster Hospital,
May 18th, 1830.

HISTORICAL SKETCH OF THE

EPIDEMIC YELLOW FEVER

WHICH PREVAILED

AT GIBRALTAR

In the Autumn of 1828.

By PETER WILSON, Esq., M.R.C.S., L. & Ed.

In this sketch of the epidemic fever which devastated Gibraltar in the autumn of 1828, I am necessarily confined to a succinct account of its origin and progress. To general readers, such may perhaps be sufficient, while those of the profession will be better satisfied with the announcement, that that distinguished physician, Dr. Chervin, is now engaged in preparing for the press an elaborate and highly interesting work, which will embrace the consideration of the disease in all its details.

At no time, and in no place, has this fever appeared without giving rise to discrepancy of opinion as to its origin. There was a period, indeed, when the belief in its contagious and importable quality almost universally prevailed; but further experience and observation, conjoined with the advancement

of science, have, in some countries, led to a contrary opinion. We accordingly find, that in places where the disease most frequently occurs, the doctrine of contagion and importation has, in a great measure, lost the advocacy of the profession; I allude to the West India Islands and to the United States of America.

On the other hand, in the South of Spain, where this fever in epidemic form is experienced at distant intervals only, the doctrine has generally obtained currency from a variety of causes, quite foreign to correct induction; and though by no means universally admitted there, will probably continue to predominate till time and circumstances yield encouragement to enlightened investigation and the unfettered expression of results.

In Gibraltar this discrepancy has not been the least prominent effect of these epidemic visitations, as may be exemplified by the fact, that at the termination of the fever of 1814, when a census of medical opinions was taken on the subject, it was found that the numbers for and against its being possessed of contagious properties were about equal.

The summer preceding the appearance of the fever was remarkably moderate; but in August the temperature was frequently high, and from about the 12th to the end of the month, cloudy easterly winds generally prevailed. On the last day of July there were some showers of rain, and again on the 1st of August sufficient fell to indicate $\frac{7}{100}$ parts in a pluviometer of any thing but nice construction; these were, for the season, of very unusual occurrence. Whether they had any influence in the production of the morbific cause may be a question; but it is deserving of remark, that at the time, many of the older inhabitants became, in consequence, impressed with the forebodings of a sickly season, such as actually did occur. Anticipations of this kind, we know, are rarely the products of either fancy or any scientific reasoning, but generally result from an experience indelibly impressed.

The town of Gibraltar is divided into twenty-seven districts, which differ both in size and local peculiarities. It was in a portion of No. 24, where the disease occurred, and in which it exclusively continued for the space of nearly if not fully, three weeks.* This portion occupies the south-east corner of the town, and hangs on the acclivity of the mountain immediately over a level space called Hargrave's Parade. It is bounded on the south by Charles the Fifth's Wall, which is of much greater height than any of the adjacent buildings; on the east by the high perpendicular cliffs of the Devil's Gap, which immediately overhang it; on the north, by a projecting shoulder of the mountain, and sundry high buildings which crest it; while on the west, the densest clumps of its tenements (and in these the fever first appeared) are, in addition, effectually shut out from the benefit of the most refreshing winds by ranges of high houses, which of late years have been most injudiciously permitted to be reared up in front of them.

Thus on every side this locality is most unfavourably hemmed in from free perflation, and, as regards heat, it forms a focus both for the direct and the reflected rays of the sun. Moreover, in its internal arrangement, it was, at the time under consideration, in a very neglected state as to cleanliness, and its sewers were either imperfect in some parts, or improperly constructed in others. No doubt, therefore, can be entertained, that if the disease in question owed its origin to local causes, this, of all places in the town, was, in every respect, their most fostering situation.

After much diligent inquiry, it appeared that no earlier authentic cases of the fever could be traced than those which occurred in a Jew's family of the name of Serfati.* One

* This was, if the disease were attributable to contagion, a very extraordinary circumstance, for during all this time no precautionary measures were even thought of; and it must be noticed, that the inhabitants of Gibraltar, viewed in their social habits, differ, from various causes, from those of similar-sized towns in England. That neighbourly feeling which exists in the latter, is rarely brought to greater maturity in the former than in the mere interchange of common oral civilities. This is to be ascribed to the heterogeneous admixture of people of different nations, languages, and religions; to dissimilarity of habits and pursuits; and particularly to the prevalence of that rack-renting system of letting abodes from month to month. Hence, in addition to those other repulsive causes, this last is a barrier sufficient of itself to hinder the growth of friendly, or even neighbourly, intercourse; and it is a fact known to all who are acquainted with Gibraltar, that friends and visitors are rarely next-door neighbours, but generally are the inhabitants of different and even remote streets and districts.

* About the same time, and living in the same neighbourhood, two children of Catalina Fani were taken ill, both of whom died, but nothing conclusive as to the nature of their disease could be learned, as the doctor who attended them also died during the epidemic; yet from the woman's own account, little or no doubt can be entertained that it was the fever.

of his daughters was taken ill, either on the 9th or the 11th of August, and two days afterwards another; then on the 15th, the child of a man named Acres. All of these lived in different departments of the same building, and in the very worst part of that portion which I have already described "as effectually shut out from the benefit of the most refreshing winds;" but, moreover, in the yard into which these houses opened, there was an old wooden erection, which served the purpose of a privy, as also the opening of a drain. The said Acres stated, that both these were very great nuisances, and that he had observed, during the two months he lived in the yard, very bad smells to arise from them. Serfati's apartments stood nearest to these sources of nuisance, and the door was, in fact, not many feet from the opening of the drain. The three cases now alluded to were either mild or protracted, as both the Jewesses continued under the influence of the fever until September, and one of them died with all the usual fatal symptoms on the second or third of that month. The child of Acres had it so very slightly as never to require confinement to bed, and was relieved from all its symptoms in a few days. The cases next in rotation were, I believe, the children of Mr. Martin, whose house is situated perhaps a hundred yards from the former, but in the same division and district. The first of these complained a little on Saturday the 16th, and on the following morning a second. The symptoms in both were, in the first instance, so slight, that Mrs. Martin did not think it necessary to confine them, but took them out, with the rest of the family, in a carriage, on the same morning, to a Spanish village, called Campamento, in the vicinity of Gibraltar, where they spent the day at a friend's house. During the day, however, the second affected became so much indisposed, that Mrs. M. left her there all night, returning herself to town with the rest of the family. She was brought into town much worse on the following morning.* In the course of the week three or four more of the children were similarly attacked, and, on the 23d, the servant maid. Except this last, and the second, all these cases were comparatively mild, for, by the end of the following week, they had nearly quite recovered, whereas the servant maid died on the evening of the 27th, and the second child continued in a state of debility for a considerable time. I saw the servant's case in company with Dr. Hennen, on the day she died; and on the same evening I was called to another, in a row of buildings situated on the acclivity immediately above Mr. Martin's house. This was the coachman of Mr. Duguid, and though he had only first felt indisposed that morning, his symptoms, when I saw him, were very urgent, and indicated, what it ultimately and speedily turned out, a most concentrated grade of the disease. On the morning of the 29th, when on my way to visit this man, I was requested, by a medical officer, Mr. Woods, to see with him a Mrs. Silcock. She lived next house to the coachman, in an apartment by herself, and was in so deserted a state, and in so advanced a stage of the disease, that we ordered her to be carried, immediately, to the Civil Hospital. The coachman, at this time, was much worse, and I now found that his wife was affected with the disease also, but in a mild way.

On the evening of that day, the principal medical officer Dr. Hennen, and several of his staff, accompanied us through the affected portion of the district. In the course of our examination, we found four new cases, and these, with the addition of from nine to twelve others, which at that time escaped our observation, form I believe, with the preceding, nearly the total number of cases, which occurred between the 9th and the 31st of August.

As has just been noticed, the first cases of the disease occurred in the families of Serfati, Fani, Acres, and Martin, and all before the 20th of August. Within the next ten days, several others in houses situated in their vicinity, but particularly in that row above Mr. Martin's house, successively followed. During the next six days, cases multiplied so rapidly, that by the 5th of September, the disease had made inroad into the majority of houses there, which contained subjects liable to its attack.

On the 30th of August, a case occurred in the Sapper's Barrack on Hargrave's Parade. This was the first which was observed beyond the precincts of the first affected portion of district. Next, about the beginning of September, one or two were found in a house occupied by different families in King's Yard-lane, and which is situated immediately below the district, and separated from it by Hargrave's Parade. By the 5th, the sappers had sent seven men out of two incomplete companies, who occupied the barrack, to hospital with the disease. Before the 10th, several new cases had occurred in the lane and adjacent houses, and by this date, the remaining portion of district 24 had become contaminated, as also, more or less, the whole of those which occupy the space bounded by it on the east or mountain side, and by the line wall on the west or bay side, so that by the middle of the month, the whole of the south end of the town was generally involved, while its centre and north end still enjoyed com-

* No cases of the fever occurred in this village during the season.

parative immunity. Straggling cases had, indeed, occurred in the districts of these divisions so early as the 10th, and, it may be, still earlier; but there was no general explosion in any of them before the 20th, and several continued in a great measure free till the 30th, and one or two even later still.

As in the town, so was its progress in the south.* A few cases were first observed in certain situations there about the middle of September; by the 25th, to use Dr. Hennen's expression, the place became dotted, and by the 30th, the disease was to be found in almost every part of it.

Such is a brief outline of the commencement and progress of the disease. It now follows to show, whether the facts which it demonstrated, favour the opinion of importation, or of local origin; of contagion, or the influence of malaria.

With regard to importation, little or nothing was heard of it in the first instance, but no sooner was the fever discerned to be the same as that which devastated the garrison in previous epidemic seasons, than rumours began to circulate, that it was introduced from abroad. After a short time, a ship was fixed on as the source from which the calamity had been derived, and a variety of assertions were successively advanced, and ultimately brought before the Board of Inquiry to maintain the opinion. This ship was a Swedish merchantman, called 'The Dygden.' She was last from Havanna, and her cargo consisted of sugar and logwood, with which she was not perhaps more than one-third laden. She sailed from that port on the 11th or 12th of May, and arrived at Gibraltar on the 28th of June. Her crew at the time of sailing consisted of sixteen persons, including the captain, and all were then in good health. Two, however, fell sick on the passage, one of whom died on the 27th of May, and the other on the 1st of June. The captain would not say what the nature of the disease was of which these men died, but their clothes and bedding were thrown overboard with their bodies, and the vessel completed her voyage, and then passed forty days quarantine at Gibraltar, without any other case of the kind appearing on board. When she had passed twenty days of her quarantine, two health guards were put on board, and the cargo, under the usual surveillance, was permitted to be discharged. These men continued on board during the remaining period, and under their superintendence the ship and crew were twice fumigated; and the linen, clothes, beds, and sails, were in rotation aired daily. On the 6th of August, she was released, and on the 12th of the same month, sailed for Cadiz. On or about the day of her being admitted to pratique, two of the crew were brought on shore to the Civil Hospital, one with a contusion of the arm, and the other with ague. Neither of these remained beyond a few days, for the former was slight, and the other we have reason to believe was a malingerer, for while there, he never evinced symptoms of any disease. The captain also came on shore in the day the vessel obtained pratique, but all that could be attached to him, lay in his purchasing some neckcloths at a haberdasher's in the town, which he gave to one of the health officers who accompanied him, for his sister to hem. Moreover, two of the crew were discharged from the vessel about this time, possibly the very men who were sent to hospital. Such then are the heads of the Dygden's voyage to, quarantine at, and communication with Gibraltar.

To attempt to detail the various stories that resulted therefrom, would occupy more space than I can spare, and, after all, yield no manner of gratification to those who might be led to peruse them. Importation of the disease was a popular prepossession, therefore every circumstance was eagerly listened to, and the interested and the designing, had very little trouble in gaining, at least, a temporary currency to almost any sort of fabrication that favoured the opinion. For instance, in addition to a report, more than suspected to have originated in commercial iniquity, which circulated that many of the ship's crew had died on the passage of yellow fever; it was currently bruited, both in and out of the garrison, that no fewer than six, fell victims to the same disease while she lay in the bay of Gibraltar performing quarantine, and that they were there thrown overboard. This story, however, was readily negatived by the inspector of health, Dr. Hennen, who repeatedly visited the ship; as also by the superintendent of quarantine; and by the health guards, who were on board of her. It was ultimately found to have no other foundation than in the circumstance of some old bedding having been seen floating in the bay, by some people who were in a boat fishing there. But the most plausible rumours were, that people belonging to the garrison had, during the period of the Dygden's stay at Gibraltar, either gone on board, or had some communication; that foul linen had been sent on shore to be washed, so soon as she was admitted to pratique; and that one of the health guards, on landing

* The south is the name applied to a second town, situated about a mile from the principal town, midway between that and Europa point; the population of which, exclusive of the military quartered there, was, at the period of the fever's appearance, considerable.

from the ship, had, through the medium of his person, clothes, or bedding, carried the fever to his house, which was situated in the infected district.

The first of these alludes to Serfati, and the husband of Fani, as their families were earliest affected. From Serfati, nothing, I believe, in favour of the assertion was obtained; but as the onus of the report rested chiefly on the husband of Fani, it may be well to give a condensed view of the evidence which she gave on the subject before the "*Board commissioned to inquire into the origin of the disorder.*" She there stated, "*That the children died within five days of each other; that she does not know the cause of their illness; that Dr. Lopez, who attended them, said the indigestion was caused by eating unripe figs; that he did not say what caused the fabardillo (ardent fever); that her husband was a cigar maker, but that he did not go on board ship to buy tobacco, or to sell cigars; that neither the husband nor the children went into the bay during the last summer or autumn; that if they had, they would have mentioned it to her, but which they did not.*"

As it was understood that this woman herself had been also sick at some part of the season, and as report had insinuated the suspicion that this might have been produced by fomes brought in clothes from the Dygden, or some other fever-fetching ship, a girl of the name of Ferarri, who appears to have been her servant, was examined on the subject by the aforesaid board, and deposed "*That she was sent by Mrs. Fani to ask Josefa Salines to wash for her; that this was some months before the epidemic, and that Salines did not come; that the things to be washed belonged to the house; that there were a good many of them; that Mrs. Fani had been ill some days; that Mrs. Fani got better; that then she and witness washed them; that these circumstances occurred long before the children fell ill.*" This was one of the rumours regarding the washing of the clothes, for it was ascribed to many; but it finally fixed on one whose assertions came straight to the point, and who only wanted moral character on her own part, and no cross questioning or scrutiny on the part of others, to have set the question at rest for ever. This was the evidence of a woman named Mary Parodi. In a paper which purported to contain the substance of facts within her knowledge, and which commenced with the asseveration, "*I solemnly swear*," and which was signed by herself, and certified by a respectable gentleman belonging to a mercantile house of the garrison, she declared "*That sometime towards the middle of August, she was desired by Mrs. Silcock* (the woman whose case I have already noticed) *to come to her house to assist in washing some clothes brought from on board of ship; that she found the people who had brought these were two foreigners, whose native language she did not understand, but that one of them, who spoke a little English, said that their ship had come from Havanna; that they said the ship had lost many of its crew by sickness, and that she was going to Cadiz in a few days; that she, Mary Parodi, and Mrs. Silcock, washed the said clothes, and that after they were wrung out, she threw them over her shoulder, and took them to the drying ground; that such was the virulence of the contagion, that it actually blistered her shoulder; that she immediately fell ill of the fever, as also Mrs. Silcock, on the following day; that these men, after leaving the clothes, went to the house of a prostitute named Dawes,* and that she also fell ill of the same disease.*"

Such was the tenor of Mary Parodi's testimony, and a more adventurous attempt to substitute falsehood for truth was not promulgated in the course of that prolific season of bold assertion. As this woman was quite notorious as one of the most abandoned and dishonest characters in the garrison, it might have been expected that any testimony she offered would be received with caution, or not be admitted into the budget of importation evidence, without some inquiry being instituted as to its consistency with facts. So far, however, were the more active abettors of foreign origin from this line of conduct, that they boasted of her evidence as conclusive, and though it was circumstantially negatived a full month antecedent to the sitting of the Board of Inquiry, and in the presence of one of its members, yet she was summoned before that Board, and patiently listened to, while others, who had taken pains to inquire into the circumstances of the fever's origin, and who were known to be actuated by no other motive than truth in their researches, were, for some inexplicable reason, not examined, or called on, at all.

As the Dygden was universally believed to be the vessel that had brought the fever, no doubt can be entertained, nor was doubt ever whispered against it, that Mary Parodi alluded to that vessel, when she stated that the ship had come from Havanna, and was going to Cadiz, for, in fact, there had been no other vessel in the bay at the time to which the description referred. Now the said Dygden, as already mentioned, got pratique on the 6th of August, and sailed for the latter port on the 12th—*ergo* the visit of the sailors with the foul linen must have been on some of the intervening days of

* This woman lived in the same street.

those dates; and the alleged illness of Mrs. Silcock and Mary Parodi ought also, according to the deposition of the latter, to have happened within the same period. The former, however, was known to have been ill only five or six days, when she was sent to the Civil Hospital on the 29th of August, and I can bear positive testimony that the latter had only very slight incipient symptoms of febrile affection on the 29th or 30th of the same month. So slight indeed were those, that though I ordered her up to hospital, I did not think it requisite to keep her there, but gave her some medicine, and desired her to return again if she did not feel better. And the woman Dawes, to whose house she states the sailors went, walked out to the Neutral Ground on the day the inhabitants were encamped there, viz. the 5th of September, and on the 8th or 9th died in her tent of a very deep grade of the disease. Here then are anachronisms with which the assertion is quite irreconcilable; and what puts it beyond the pale of all credibility is the circumstance, that while, on or about the day Silcock is found in the last stage of fever, the deponent Mary Parodi, who according to asseveration was the first taken ill, and that very grievously, has the disease so recent and slightly as not to require hospital treatment. It was, indeed, attempted to invalidate my testimony as regards dates, but fortunately I was eighty miles distant from Gibraltar, viz. at Cadiz, from the 5th to the 25th of August; and as she readily acknowledged, that on the day I sent her to hospital she accompanied a man named Soari affected with the fever, and that I ordered him to be retained while I discharged her, a reference to the registers of the institution in which his entry, case, and date of death, were recorded, put the matter beyond all dispute. She did not return to hospital, though by her own account she got so much worse as even to have *black vomit*. But that gratuitous exaggeration does not affect the question in point, since it is known that various members of families in her neighbourhood were laid up with the fever long before either she or her companion Silcock complained. With regard to the last of the assertions, which from their presumptive probability have been considered worthy of enumeration, I have shortly to observe, that they were conclusively negatived by the personal testimony of the health guard himself, and by the circumstances which occurred in his family. To conclude this branch of the subject, I may notice that the vessel was furnished at Havanna with a bill of health, now in possession of the captain of the port at Gibraltar, which declares, in a most unusually pointed manner, that no pestilential disease then existed there; and within these few months I met with two intelligent men who were in that city both before and for sometime after the sailing of the Dygden who averred the same fact, and that the captain of the said ship, during his visit to Cadiz this last summer, rebutted every tittle of evidence that had been brought before the Board of Inquiry against her. But after all, I know not why I should have occupied so much space in exposing the falsity of these stories, when I had so good an authority as Dr. Pym, the most indefatigable importationist of the day, to quote in their contradiction. That gentleman assured me, both when in Gibraltar, and more recently when I met with him in London, of his thorough disbelief of the Dygden having been the medium of the fever's introduction, and this after having made free scrutiny into all the circumstances which had given rise to the reports.

It may be asked, Was any other medium of importation ever suggested? I answer that various vague reports got into circulation, at different times as already stated, but as none were found with other than imaginary foundation, I cannot take more appropriate leave of the subject than by quoting a fact from the written official opinion of one of the members of the Board of Inquiry, and a no less qualified personage than the superintendant of quarantine at the place. His words are, "*No vessels have arrived here during the last summer* (1828) *having the yellow fever on board, nor has that disease discovered itself among any of the shipping in the port.*"

(To be continued.)

ON THE MODE OF DETECTING

NITRIC ACID,

And the total inefficacy of the New Test of decolorizing the

SULPHATE OF INDIGO.

By W. B. O'Shaughnessy, M.D., *Surgeon, &c., Edinburgh.*

Having been very recently engaged in a series of toxicological experiments, my attention was particularly arrested by the discovery of a glaring fallacy in one of the tests recommended by the most eminent authorities for the detection of this important poison.

On reference to the most recent works on chemistry and toxicology, and those justly considered to contain *standard* opinions on the subject (I will particularise Dr. Turner's Elements of Chemistry, and Dr. Christison's splendid Treatise on Poisons just published), a new test of the presence of ni-

nute quantities of nitric acid in the diluted form, will be found advanced on the authority of Dr. Liebig, and its efficacy corroborated by these distinguished authors in the most positive and decided terms. As I consider the matter of no ordinary interest, I shall quote the passages from the abovementioned works which contain the statement of the circumstances to be investigated in the following observations.

In page 232, last edition of Dr. Turner's Elements of Chemistry, the subjoined statement occurs:—"A new test of the presence of nitric acid has recently been proposed by Dr. Liebig; the liquid to be examined must be mixed with a sufficient quantity of a solution of the sulphate of indigo in sulphuric acid, for acquiring a distinct blue colour, a few drops of sulphuric acid added, and the mixture boiled. If a nitrate is present, the liquid will be bleached, or if the quantity is very small, rendered yellow; by this process, nitric acid may be detected, though diluted with 400 times its weight of water; or by adding a little muriate of soda to the liquid before applying heat, one-five-hundredth part of nitric acid may be discovered."

Again, on referring to page 120 of Dr. Christison's new work on poisons, we find the following passage:—"Nitric acid in its diluted state is not always so easily discovered as the other mineral acids, because it does not form with bases, any insoluble salt, or precipitate. Professor Liebig, however, has recently discovered a very characteristic and elegant test, provided the acid is not diluted with more than 400 parts of water; his test is taken from the effect of this acid on the sulphate of indigo. A solution of indigo in sulphuric acid is to be added to the suspected fluid, till it communicates a perceptible blue tint, care being taken not to make the tint too dark, particularly when the suspected fluid is presumed to contain but little nitric acid; a drop of sulphuric acid is next to be added, and the mixture being put into a glass tube, heat is to be applied till it boils; as soon as it reaches the point of ebullition, the blue colour is either destroyed altogether, so that a colourless liquid forms, or it gives place to a faint straw-yellow tint; the latter effect is remarked when the proportion of nitric acid is small, and the indigo tint rather deep."—Professor Christison then remarks on the test of neutralisation by the carbonate of potash, which he considers less delicate than Dr. Liebig's, and further adds, "Liebig's test is applicable to the nitrates as well as their acid. This is the most advisable method in a criminal case, Liebig's being made, in short, a trial test.

It is unnecessary to make further extracts in proof of the general faith in the validity of this process. In the very latest work on chemistry in existence (Mr. D. B. Reed's Practical Elements), the same statement occurs, and reference is given to the original paper of Dr. Liebig in the *Annales de Chimie*, vol. 35, page 80, where in a memoir "Sur la substance amese producte par l'action de l'acide nitrique sur l'indigo, le soie, et l'aloes," the reader will find the original in French, of which Dr. Turner's statement is a literal translation.

Here, then, we are presented with the most unequivocal assertion, and testimony of the proof of the efficacy of this new method of detecting nitric acid; so positive, indeed, that it may appear presumptuous, if not absurd, to question the veracity of the statement. It will be remarked, however, that none of the authorities quoted, advance any explanation of the action which occurs in the decolorization of the fluid; the fact is asserted, but nothing more. Not having had Dr. Liebig's paper at hand when my attention was first directed to the subject, and being unwilling to advance the circumstance to the gentlemen attending my course of experiments without some explanation, I was led to institute some experiments for the purpose of ascertaining the nature of the decolorization, impressed with the idea that the test was valid, though unexplained.

The unexpected results which followed the inquiry, render it unnecessary for me to particularise the experiments which led me to suppose that the nitric acid was by no means essential to the decolorization of the fluid. I shall merely mention the facts, and subsequently add the requisite observations.

A few test tubes were filled to the same height with water, and the fluid tinted to the same depths of shade by the blue solution of indigo in sulphuric acid. Dr. Liebig's process with the nitric acid was performed on the first, and the colour was immediately discharged as he describes. To the fluid in a second tube, a few drops of sulphuric acid were added, as Dr. Turner desires in the process for nitric acid, and the colour, on the mixture reaching the boiling point, was discharged as effectually as in the first experiment. A third trial was made with muriatic acid alone in the same quantity, and the tint was again destroyed; and in a fourth experiment, two grains of the muriate of soda, with one minim of the sulphuric acid produced the same effect.

These experiments at once established the total inutility of Dr. Liebig's plan for detecting nitric acid, since the muriatic and sulphuric acids possessed equal decolorising power over the indigo solution. In order to corroborate the fact, I demonstrated it next day to nineteen gentlemen, candidates for the medical degree at the ensuing graduation, and all perfectly competent to form a correct estimate of the circumstances; *not one of these gentlemen could distinguish the*

slightest difference of shade in the fluids, resulting from the four experiments just described.

It is true, that in a case of poisoning by a mineral acid, a fallacy of this kind can usually have but little influence on the issue of judicial investigation, or on the general efficacy of the medical testimony. So well marked are the morbid appearances which must present themselves in a fatal example; but without violating probability, it may be readily imagined that an inexperienced practitioner might confound the appearance of aphthæ in children with the effects of one of these corrosive agents, and under the influence of the suspicions which accidental coincidence or maternal solicitude will very frequently excite, be induced to apply Liebig's tests to the contents of the intestinal canal. In such a case, the "few drops of sulphuric acid" mentioned in Dr. Turner's Elements as a necessary ingredient in the process, or the single drop of sulphuric acid advised by Dr. Christison, along with the muriate of soda necessarily present in the stomach, would be amply sufficient to reduce the tint of the fluid to perfect transparency; and, under the present mistaken belief in the delicacy and *characteristic* nature of the test, sufficient evidence would be obtained to criminate an impeached individual. In addition to such a source of practical error, it is now notorious that the strong acids are administered with the intent to murder, almost exclusively to infant children or intoxicated persons, with whom the history of the occurrence must be necessarily incomplete; in case of a recovery too, the vomited matter may become the subject of analysis when the assistance of morbid appearances may be totally wanting.

It is a matter of trite remark, that it is easier to overturn a bad system than to establish a better; I trust, however, that in the present instance I may escape that imputation, as I feel convinced, that while I raise objections to Dr. Liebig's method, I can direct the attention of toxicologists to one free from every source of confusion; but before I proceed to its consideration, the circumstances under which nitric acid presents itself to the toxicological inquirer, demand a cursory observation. The analyst, then, will usually have to determine the nature of, 1st. The concentrated fluid remaining in the apartment, perhaps, unconsumed by a suicide, or forgotten by a murderer; 2nd. The stains on various articles of apparel; 3rd. The fluid mixed with the heterogeneous materials in the alimentary canal.

In the first case, various tests have been proposed to determine the presence of pure concentrated nitric acid, for example, the solution of gold leaf with muriatic acid, the evolution of nitrous fumes, by the deoxydizing agency of the metals, such as copper, mercury, &c. On the gold leaf test it is unnecessary to dwell here; so many and so generally admitted are the errors to which it is exposed; as to the action of the metals, this single test, though of considerable precision, is scarcely sufficient, in *unpractised* hands, to afford satisfactory evidence, if unsupported by any more tangible demonstration.

In proof of the presence of the concentrated acid, there are three experiments, which appear to me perfectly free from fallacy, of extreme delicacy, and besides possessing the advantage of being preservable for exhibition or description on a criminal inquiry.

The *first* is the action of *morphia* on the nitric acid, being instantly turned yellow, and in a few seconds vermilion red, on the application of the smallest drop; the experiment may be beautifully shown, by placing a particle of morphia on a slip of white card, and allowing a minute drop of the suspected liquid to fall on it, from the extremity of a capillary tube. By sulphuric acid, morphia is *slowly* changed to a dirty black; by muriatic acid it is entirely unaffected. This fact I believe was first observed by M. Lassaigues and is mentioned by Mr. Children in his translation of Thenard.

The *second* experiment is the formation of the detonating cyanate of silver; for this purpose, add five minims of the suspected fluid to three of water, and ten of strong alcohol in a glass tube, and drop into the mixture a particle of silver the size of a pin's head; hold the tube near the fire till effervescence commences, and then restrain the action by pressing the point of the fore-finger on its open extremity; if the fluid be nitric acid, in about three minutes, sometimes less, white flakes, like coagulated albumen, suddenly appear in the liquid, and subside as it cools; the tube should next be agitated, and its contents thrown on a filter about the size of a thimble, and allowed to dry in a warm place. A particle of the residuum thus obtained, detonates loudly when introduced into the flame of a candle or spirit lamp. In this process, nitrous ether is abundantly disengaged, affording excellent corroboration of the presence of nitric acid, by its fragrant and peculiar smell. From the above-mentioned proportions, I have repeatedly obtained twenty-eight loud detonations, by careful management. This test of nitric acid is quite decisive; for though other compounds of silver also fulminate, yet the mode of preparation, the materials employed, and the phenomena of the several actions, are so widely different, that no mistake can occur.

The *third* test for the concentrated acid, to which I would claim attention, is one, in

like manner, perfectly free from deception—I mean the formation of the nitrate of *urea*. The facility with which it can be applied, when morphia cannot be produced, is also another material argument in its favour. When urine is evaporated at a heat not exceeding 212 Fahrenheit, to the consistence of a thin syrup, the smallest drop of nitric acid immediately causes the formation of an abundant precipitate of yellowish scaly crystals, like little wheels, or radiations from a common centre; oxalic acid produces the same effect, but the action of oxalic acid on lime-water will, at once, discriminate between both re-agents.

I shall pass over the second head, or the recognition of stains on articles of apparel, as it may be merged in the consideration of the third section, namely, the method of detecting nitric acid in the impure diluted state, or, in other terms, mixed with the vegetable and animal matters co-existing in the intestinal canal.

The impure fluid, when removed for examination, principally consists of water, nitric acid, albumen, casein, fibrino, osmazome, and gelatin. Muriate of soda is invariably present; and sugar, spirits, and other accidental substances, are present, according to the circumstances of the case. To detect the poison in such a complicated state of admixture, Professor Christison recommends the neutralisation of the acid with the carbonate of potash, evaporation to dryness, re-solution of the extract in alcohol, evaporation again, and the examination of the nitrate of potash thus procured. The presence of that salt, he states, may be recognised by the effects on the indigo solution, and the deflagration which ensues, when it is inflamed with combustible matter.

Having succeeded, I think, in establishing the utter uselessness of the indigo test, the next point to be considered is, how can we conduct the neutralisation with the effect of obtaining the most abundant product of the nitrate? And, secondly, how is the constitution of the nitrate thus formed to be ascertained? I will not delay here, by reviewing the merits of other methods, but I will at once describe the plan by which I have always succeeded in obtaining the most satisfactory results, from the analysis and separation of the most complicated mixtures.

Before neutralisation, I pass the mixture through a filter of prepared paper, always observing the precaution of using a receiving vessel sufficiently capacious to contain the whole of the fluid filtering, in case of the breaking of the paper; by this means, a considerable quantity of congulated albumen and casein is mechanically separated; the filtered solution now contains a large proportion of gelatin dissolved in the diluted nitric acid; to this I add an infusion of tan, by which the gelatin is precipitated; and when the compound thus formed has subsided, I add the carbonate of potass till neutralisation is effected, then boil for a quarter of an hour with animal charcoal, and filter again. By this manipulation I obtain a colourless fluid containing nitrate of potash, muriate of soda, not unusually a little oxalate of potash, produced by the action of the nitric acid on the animal substances and accidental sugar; it also contains osmazome, and other substances of less importance; by cautiously evaporating to dryness, an amorphous mass is obtained, to which (according to its quantity) the annexed tests may with facility be applied; for the evidence afforded by deflagration is by no means a satisfactory proof of the nitrate of potash being present, since the chlorate, oxalate, and others, do the same; some more energetically, others less so.

1st. As a trial test, introduce about five grains of the mass into a small glass tube, with about ten minims of distilled water; heat the mixture in the flame of a spirit lamp, and when it boils, drop into it a grain of English morphia, and immediately touch the surface of the fluid with a glass rod moistened with sulphuric acid; if a nitrate be present, the mixture will instantly assume the colour of sherry wine.

2d. Introduce a drachm of the mass into a small retort capable of containing no more than two fl. ounces, with a neck twelve inches long and one-third of an inch in diameter; add an equal weight of strong sulphuric acid, and apply heat, condensing the product of the distillation in a little phial containing twenty drops of distilled water. Nitric acid will be procured in sufficient quantity to supply any or all of the tests I have advised, namely, the morphia, urea, and detonating silver, three times over, if sufficient economy be observed. I may add, that there is no difficulty in procuring from five grains of the nitrate of potash of the shops, as much pure nitric acid as is sufficient to show the morphia and urea tests in the most unequivocal manner.

I have thus given an outline of the process necessary to be pursued in the detection of this poison. It may perhaps be considered that I have dwelt too long on a subject, concerning which the ends of justice might be satisfied by a tithe of the investigation; yet I cannot but agree with Dr. Christison, when he observes, that "it is the duty of the medical jurist to supply not only satisfactory evidence, but also the best evidences which his science affords."

Edinburgh, 65, Laurieston.
Feb. 1st, 1830.

OBSERVATIONS

ON THE VAPOUR BATH.

By Dr. J. Hancock.

Aqueous vapour, as a remedial agent, is preferable to the direct application of warm water on the surface of the body, as being more powerfully sudorific and resolvent, whilst it relaxes the habit less. A much *greater degree of heat*, moreover, can be borne by the patient, and with less fatigue and oppression. It excites the skin with more intensity,* dilating the extreme vessels, and driving the blood from the overcharged viscera into the general system, and its wonted channels; with the use of friction, it becomes one of the most potent and effective means of revulsion, and a balancer of the circulation.

Few people, unfortunately, either in London or elsewhere, have any idea of the ease with which they may obtain, at any time, a vapour-bath, an article, perhaps, little inferior in importance and real utility to all the drugs of the apothecaries' shops taken collectively. Nothing more is, in this case, required, but for the patient to sit upon some sticks or laths over a small washing-tub,† about half full of water near the boiling heat, with a blanket or two thrown over his head and shoulders, and extending to the floor all around the tub. This will retain the steam about the patient's body, and soon produce a universal sweat.

This simple method, available even to the poorest families, is, in every respect, equal to the most complex and costly apparatus for obtaining a vapour-bath.

From ignorance of this, and the exorbitant price demanded for baths of this kind, the poorer class in London are totally debarred the enjoyment of this species of luxury. They are made to believe, by the interested individuals who keep these machines for hire, that nothing less than six or eight shillings can afford them a single bathing, or as many pounds, for the purchase of a machine. On passing down Museum Street in June, 1828, I heard a poor woman relating to another, that her husband was confined to his bed, and quite crippled with rheumatism, and that they were not able to afford him the trial of a vapour-bath. I took the liberty of informing her how she could prepare it herself, and repeat it as often as required without expense. On passing that way, and meeting her again about a fortnight afterwards, she informed me, with expressions of gratitude, that by following my directions, together with the use of some herb-tea, her husband was quite recovered, and some days previously had gone to his work.

The power of the vapour-bath appears to be increased by the addition of aromatic substances to the water, as by throwing in the leaves of the lime-tree, guava, wild sage, or other aromatic herbs, as mint, rue, rosemary, &c.

The patient may remain for a quarter of an hour, more or less, according to circumstances, such as the extent of perspiration, or a feeling of faintness, and should then be rubbed over with a coarse towel, lie on bed, and be covered with a blanket or two, to keep up the perspiration for some time. The bath may be repeated once or twice a day if required, or according to the urgency of the case.

For my own part, I think there is no method better adapted for the successful treatment of fevers in general, than that which is followed by certain tribes of Guiana, which consists of very little besides the use of aromatic vapour-baths and frictions; they take for this purpose the leaves of the guava, lime-tree, &c., or any aromatic herbs at hand, bruise and throw them into the bath. A similar practice is pursued by the Creoles of Martinique in yellow fever, and with a success much greater than that attending the European practice.

The simple method here detailed is not only adapted to the application of watery vapour or steam, but answers, equally with any other, for fumigation with the gases, as of sulphur, chlorine, mercury, &c.; and for these purposes, it is only necessary that a heated stone, or iron, be laid at the bottom of the tub on a cold brick (to prevent its burning), and the sulphur, &c. be sprinkled upon it, when the gas will be evolved, and surround the patient's body.

These fumigations are amongst the most powerful auxiliaries in the cure of chronic rheumatism, and in glandular obstructions, liver complaints, and enlargement of the spleen; and they have extraordinary effi-

* The water of the Thames, and the wells about London, is peculiarly *hard*, from impregnation of selenite—sulphate and carbonate of lime, &c.; owing to this, the water is but ill adapted for cleansing the skin; and, even with common soap, it forms on the surface an adhesive insoluble magma, which requires to be rubbed off mechanically by hard friction; hence steam or vapour is a vastly better detergent, serving at once to detach the dirt, and open the pores of the skin; hence, also, the application of steam in washing clothes, is found to render the process extremely easy.

† This answers very well, but the common oval bathing-tub would be still better, as admitting the feet over the water, having a frame of lath-work for the patient to sit on, to be taken off, or used when required.

cacy, along with proper internal remedies, in the removal of leprous, scorbutic, and various cutaneous disorders.

Catarrhs and coughs are relieved by aqueous vapours received with the breath; expectoration is thus assisted in humoral asthmas, and the same is conducive to the healing of ulcers of various kinds. Moreover, in fevers, and inflammatory states of the liver, spleen, and bowels, in dysentery and dry bellyach, the advantages derivable from the vapour-bath are incalculable.

The uses of the vapour-bath are almost too numerous to be detailed here, being constantly requisite in every family; it is, indeed, amongst the most effectual sources of health and cleanliness, removing the sordes of filth from the skin, so as to open the pores, and give freedom to the transpiration; at the same time it is not to be recommended as a general prophylactic, but rather as a powerful remedy in actual disease or predisposition; whilst, as a tonic and bracer of the habit, a moderate use of the cold-bath, or sponging, should not be disregarded. We may, therefore, consider it of much importance to procure a remedy of this kind (the vapour-bath) for domestic use, which may be done at a small expense, and with the greatest facility.

Pimlico, May, 1830.

THE ROYAL WESTERN HOSPITAL.

The adjourned meeting, relative to the affairs of the Western Hospital, was held at the Yorkshire Stingo, on Wednesday week, A. Dawson, Esq., M.P., in the chair. There were about 250 persons present.

Mr. Sleigh, with great vehemence, entered upon a long series of accusations against Dr. Ayre, Mr. Truman, and others, whom he charged with having attempted, by the most foul means, to deprive him of the situation of surgeon. Mr. Sleigh concluded by moving a resolution, expressive of the benefits which had resulted from the Institution in question, and the necessity for its continuance, at the same time nominating a Committee to inquire into the state of affairs, and for rendering further support.

Mr. Gale, a governor of the Western Hospital, in seconding the resolution, warmly supported Mr. Sleigh. He imputed to Dr. Ayre the charge of having taken money from the collector, and of appropriating the money thus taken to his own use. He likewise accused the *Honorary* Secretary, Mr. Beechy, with having kept the sum of thirty guineas, as a set-off to an account which he (Mr. B.) had against the Hospital as a solicitor. Mr. Gale went on to remark, that whilst to Mr. Sleigh the whole merit of having founded the Institution was due, cabals had been raised against him, and every means resorted to, to prejudice the minds of the governors and of the public against him; and to such an extent was this bitter animosity to Mr. Sleigh carried, that an attempt had lately been made *to set fire to the Hospital, and to burn it with all the patients therein!* It happened, fortunately, that Mr. Sleigh discovered a large quantity of combustible materiel, turpentine, tow, &c. placed under the floor; the intention being to ignite these, and thus to burn down the Hospital. Anonymous letters, at the same time, had been sent to the Westminster Insurance Office, cautioning them against Mr. Sleigh, because it was thought that the insurance which had been made there for 6000*l.* still remained. The fact, however, was, that owing to the premium not having been regularly paid up, a lapse of the insurance had taken place. The whole affair had been investigated before a police magistrate, but the delinquent had not yet been discovered; inquiry was still going on.

Dr. Ayre next addressed the meeting, amidst great interruption. He said that soon after he became attached to the Western Hospital, he discovered that its affairs were in a most embarrassed condition, and he also discovered that Mr. Sleigh's character was so bad, it was impossible the Institution could go on with him. Mr. Sleigh had disgraced himself in the eyes of the medical profession by his conduct at St. George's Hospital. He had deluded various young men out of large sums of money for a pretended demonstratorship, and a connexion with the Hospital, when, in point of fact, both were valueless. One of these dupes had given him bills to the amount of 1500*l.*, but, fortunately, being a minor when the bills were drawn, they were not paid. Mr. Sleigh, also, had deceived many of the pupils, by representing that the certificates of attendance on the "Hospital" would be recognised by the College. Dr. Ayre further charged Mr. Sleigh with having purloined a dead body from the "Hospital," which he sold to the pupils in the Borough, and pocketed the money. An inquiry before a magistrate took place, and the body was returned, but not so the money to the pupils. At the commencement of the Institution, Mr. Sleigh had "received" an anonymous letter, inclosing 200*l.* for the Western Hospital. Now he (Dr. Ayre), on the authority of Mr. Gale, would state, that the letter was written by Mr. Sleigh himself, and was a trick to entice others to subscribe. (Mr. Sleigh here referred to the subscription list, to prove that the money had actually been put to the account of the Hospital.) With a knowledge of all these, and

other circumstances, Dr. Ayre maintained, that he had sufficient reason for attempting to detach Mr. Sleigh from the Institution. In respect to the charge of having taken money from the collector, the fact was, that he had previously lent 30*l.* to the "Hospital," and received that money in part of payment.

After a few exculpatory observations from a Dr. Elliott, in reference to his appointment as physician to the Western Hospital, and some laudatory remarks from a pupil of Mr. Sleigh, who said that a party had been got "up" to set Mr. Sleigh "down," Mr. Pope addressed the meeting. The gist of this gentleman's speech was to show, that as a member of the Committee of Inquiry appointed at the former meeting, he had endeavoured to discharge his duty, and as a matter of course, had been aspersed by Mr. Sleigh; but thus it was, that Mr. Sleigh ever abused and vilified those who did not serve his purpose. Reference had been made to various young gentlemen with whom Mr. Sleigh had been connected; but where was Mr. Lynn, of Parliament Street?—Where was Mr. Hicks, of Conduit Street, and the eight or ten physicians who had been, in succession, attached to the "Hospital?" Mr. Pope then went on to show, that the whole concern was greatly involved, there being a debt of nearly 3000*l.*, with an annual rent of 270*l.*, whilst the fixtures, and every thing in the Hospital, were not of more than two hundred pounds value, and at this time there were only ten patients in the Hospital. It had been got up to serve Mr. Sleigh's private purposes; it had failed through mismanagement, and he did not conceive that the institution had any just claim on the public.

Mr. Lambert rose to offer an amendment to the resolution proposed by Mr. Sleigh. It appeared to him, that although designated a public meeting, the majority consisted of two parties, the friends of Dr. Ayre and those of Mr. Sleigh, and so far from discussing any public question, they had occupied several hours in mere crimination and recrimination. He had come to that meeting unconnected with either or any party; he had not even intimated his intention to any one person; he had sat there for several hours, and had witnessed, with feelings of the deepest pain, an exhibition totally at variance with what he considered to be the true spirit of charity; he had heard members of a so-called *liberal* profession charge each other with nearly all that was base in human nature, and that, too, be it remembered, in the pursuit of a *charitable* object. But whilst he (Mr. Lambert) felt sorrow that the character of the medical profession had been lowered, he had some degree of satisfaction in reflecting, that out of this evil a great good would proceed. The scene of chicanery, intrigue, and shuffling, which had that day been developed, would, he trusted, tend to disabuse the public mind in reference to the establishment of hospitals and dispensaries. The poor flimsy veil of "humanity" had been torn aside, and the monster had been exhibited in its natural and hideous deformity; the secret workings of the system had been exposed—self-interest was seen to be the main spring. He (Mr. L.) would say,—"Ex hoc uno, disce omnes." There was a specious glare about them, which deceived the public; but let them be watched narrowly and closely, and it would be found that these institutions were, for the most part, under the management of an oligarchy, and that, in reference to the appointment of medical attendants, it was not a question of skill, but one as to the degree of consanguinity, or family influence. And what was the consequence of such a system? Why, he would maintain, the consequence was, an immense addition to human suffering and destruction of human life. He saw, in the room, some of those whom he considered to be subscribers, and to these gentlemen he would say; If you are really desirous of relieving the afflicted poor, in lieu of giving a subscription to a hospital, send your own medical attendant, in whose skill you have confidence, to the case. That would be real, substantial, practical good. Mr. Lambert went on to observe, that the necessity for the existence of a hospital had been assumed from the fact of there being a great number of poor in the neighbourhood, but these poor were, as a matter of course, entitled to attendance from the parish surgeon. Mr. Lambert concluded by moving, as an amendment, "That this meeting does not recognise the necessity for the existence of a hospital."

The amendment was seconded by a gentleman whose name we could not learn, who made some severe remarks on the objections which Mr. Sleigh had made to the Committee of Inquiry appointed at the former meeting. He said that the object was to put down the names of a certain number of persons, the greater part of whom it was known would not attend.

Mr. Webb (the "traducer" of Celsus) said that he had lived in the neighbourhood several years, and he believed that the hospital was really necessary, and during its existence was useful.

A Gentleman who described himself also as a resident said that he had never heard of a hospital being required.

The amendment was now put amidst a scene of the greatest uproar and confusion. The Chairman did not determine the question in the usual manner by a show of hands,

but desired those who were favourable to say AYE, and those who were adverse NO. A division was then called for, and the parties were desired to arrange themselves on opposite sides of the room, and again the shouts of aye and no were demanded. The clamour was so great, that from not being able to hear the chairman's directions, many were on the side contrary to that which they intended to support; in consequence it was demanded that the numbers should be counted, and that Mr. Sleigh's pupils should leave the room, with which request the Chairman did not think proper to comply. It was at length moved that the meeting do adjourn, when those who had supported the amendment left Mr. Sleigh and his well-packed posse of friends and pupils to settle the affairs of the Royal Western Hospital.

The whole scene, which lasted altogether upwards of six hours, beggars all description; the most gross personalities were indulged in; to accusations from either side, there were constant reiterations of "It is false;" whilst the whistling, hooting, stamping, and various discordant noises, could only be equalled by those of a "row" amongst the "gods" in the Coburg Gallery.

To the Editor of THE LANCET.

SIR,—A public meeting having been convened at the 'Yorkshire Stingo' yesterday, with the view of taking into consideration the depressed state of the Royal Western Dispensary, I beg leave to offer a few remarks on the speakers present, and particularly the Rev. Mr. Fletcher, whose character, I believe, is irreproachable; on this occasion, however, I cannot pass him over in silence. He pledged himself to exert his best abilities to support the institution, whether conducted on honourable or dishonourable principles; these are his words, "If we have impostors to deal with in the medical staff, we must not forget the institution, although there are such characters attached to it." Now, Sir, with all due deference to the divine gentleman, I am inclined to think his philanthropy, in this particular instance, has been overstretched. What would he say, if it were suggested to him that his attendance to preach in Moorfields Chapel was unnecessary, unless he did so gratuitously? he wishes to promote an institution founded on the worst of principles, and immersed several thousands in debt, to the injury of many respectable medical gentlemen residing in the neighbourhood, and worse still, to the imminent danger of the POOR. I say it is fraught with injury to the surgeons of that district, especially if we take into consideration the meanness of the "Hospital medical officers," who have had the impudence to advertise, that they will attend "gentlemen's servants at their masters' houses gratis," and of course thus rob the institution of the medicines, &c. destined for the relief of the poor. This, Mr. Editor, is really too bad, and merits ample publicity. Charities such as the one in question, are self-appointed, something like the *select vestries*, and are by no means applicable to the purposes advertised; instead, therefore, of affording relief to those who are really distressed, they open a field for jobbing, and all its consequences. We have an infirmary well paid in the parish, and every way well calculated to afford relief to the poor when sick; wherefore, it appears to me, that gentlemen and ladies would do well to reflect before they subscribe their guineas.

The favour of inserting this in your valuable Journal, will much oblige your constant reader MEDICUS.

Lisson Grove, May 20th, 1830.

P.S. I beg to express my warm thanks to Mr. Lambert, for his spirited and manly conduct at the public meeting.

To the Editor of THE LANCET.

SIR,—Knowing your disposition to expose all foul play, I am induced to furnish you with the following case.

About two months since, a poor woman took a child to the Western Hospital to have its head dressed, which had been just broken from the fall of an area gate against it; it was there dressed, but not till she had sent to a druggist's shop just by for two ounces of lint, and sixpenny-worth of strapping, and which, of course, she paid for; who dressed it, I was not informed; however, the child was seen several times after, when the woman carried it there on the days on which out-patients are seen by Mr. Sleigh, who, by the way, told the woman it would be necessary for her to get a letter of recommendation from some subscriber, which she neglected to do till Thursday, the last day she took it to the Hospital, when the following *very just and moderate demand* was made her, and that in Mr. Sleigh's own writing too, for I hold the original:—

"Mr. Sleigh does not furnish accompts to his patients; however, in the present instance, Mr. Sleigh, for his attendance on this child, expects at least five guineas."

"7, Gloucester Place, N. R.

"May 13th, 1830."

Any comment of mine on the above, I feel would be considered superfluous; I

therefore forbear making any, trusting you will not show similar indulgence.

I am, Sir,
Your obedient servant,

——— near
Bryanston Square, May 21.

P. S. I forgot to say that Mr. S. did once visit the child, it not being, in his opinion, in a proper state to be brought to the hospital, and that the little medicine which it had was bought at ——, there *being none in the Hospital* proper to give it.

THE LANCET.

London, Saturday, May 29, 1830.

The history of usurpation informs us, that there are two opposite paths to be pursued in ascending to the possession of sovereign power, the steps of one being constructed of monarchical, the steps of the other being composed of republican principles and professions. Mr. Carmichael of Dublin, having failed of attaining his object in the latter way, of becoming the Cromwell or first consul of the College of Surgeons in Ireland for life, has adopted the former road, as a last resource of defeated ambition; being recently engaged, we understand, in essaying how far he could practise the charlatanry on the constitution of that body, which he some time ago so successfully played off on the unsuspecting credulity of the public in his introductory lectures. Doubting the orthodoxy of the despotic doctrines taught by precept and example in his native political schools, Mr. Carmichael, the better to prepare himself for the subjugation of the Dublin College, journied, we are informed, all the way to Paris, to take lessons in diplomacy at the fountain head of Machiavelism. The proficiency which he made in political turpitude during his sojourn there, fully justifies the toil and expense of his studious visit, having submitted on his return, no less modest a proposition to his fellow members of the College, than the total concession of their corporate rights into the hands of a council to be partly appointed for life, of whom, of course, the gratitude of the body for relieving them from the cares and troubles of corporate legislation, would include himself as the first on the list of the life-elected oligarchy! It would be rather a difficult matter, to conjecture the arguments by which an honest man and a merely rational thinker, could attempt to justify a proposition so audacious and disreputable; but the desperate enterprise furnished Mr. Carmichael with recommendations of his scheme for subverting the Irish College, which would have been spurned by ordinary discoverers in ratiocination. Who for example would have imagined, that any proposal intended for the deliberate consideration of any number of individuals possessed of the common powers of judgment and discrimination, would be exclusively supported by the damnatory analogy of the junto in Lincoln's-Inn-Fields? Yet such is the pure, unspotted, immaculate institution from the beneficent results of whose operations Mr. Carmichael deduced his sole arguments in favour of his proposition, and whose constitution he held up to the members of the Irish College, as a model of corporate perfection for their admiration and consequent imitation. The council of that establishment, he observed, worked well; its deliberations were undisturbed by popular clamour; and its ordinances carried into execution, unobstructed by those checks, which the vigilance of free institutions casts on the headlong career of irresponsible power. The elections of members to the council, being partly hereditary, partook more of the tranquillity of domestic or family arrangements, than of the turmoil of the hustings; the ticket, hospital, and licensing revenue, was peacefully settled around the fireside-circle of this little oligarchy; while the streams of the corporate exchequer quietly meandered into the pockets of the examiners,

without even the surface of their course being ruffled by the breath of complaint by some querulous, begrudging, radical financier of a popular assembly. Besides adducing these beautiful analogies of the Lincoln's Inn College, in which of course all was perfect, Mr. CARMICHAEL intimated that he had taken the opinion of many respectable members of the profession on the subject, and that they were unanimous in their approbation of the expediency of his project. We have no doubt, indeed, but Mr. CARMICHAEL did consult some congenial spirits on the occasion, and that entering into his views of the matter, in hopes of participating in the benefits of a successful attack on the constitution of the College, they approved of his designs, and promised him their faithful co-operation. He would be a sorry Catiline, whose profligate seductions could not supply him out of the corrupt mass of society with a few congenial cethegi; a miserable conspirator, whose invention or prospects would not furnish him with fitting accomplices for attempting the accomplishment of his designs. To the honour, however, of the Dublin College, Mr. CARMICHAEL's dupes must have been few, or destitute of the necessary audacity for such an undertaking; for, on submitting his degrading programme of government to the College, he stood "alone in his glory," there being scarcely one of the members present corrupt or brazen enough to second his disgusting motion. Though such a proposition might with propriety have been left to the refutation of silent contempt, it gives us much pleasure to find that the abominable aggression on the rights of the members of the College elicited an eloquent reply from Dr. Jacob, who, holding the renegade radical's famous introductory lectures in his hand, scourged their author in a most masterly manner with a cat-o'-nine-tails of his own plaiting, to the obvious amusement and gratification of the meeting. So signal a defeat, we presume, will prevent poor Mr. CARMICHAEL from taking the trouble of getting up another public character to appear in; and send him quietly into that obscurity, from which his political hypocrisy had raised him, while, it is to be hoped, that his exposure and example, together with the independence manifested by the Irish College on this occasion, will suppress every future attempt of profligacy and imposition to assail the soundness and integrity of its constitution. It would, perhaps, be an unjustifiable condescension of reason to oppose argument to the naked, abstract, unwarrantable vileness of this measure, particularly as we have frequently pointed out the features in the fundamental laws of the body on which this attack was made, and which usefully and honourably distinguish it from all its contemporaries. To these notices of its constitution, and the records of the advantages conferred by it on the profession of surgery in various parts of this Journal, we might direct the reader's attention for arguments against any alteration in its present form, such as has been proposed at least by Mr. CARMICHAEL. We have long indeed looked on it as planned on more liberal and judicious principles than any of its contemporaneous establishments. It is the only professional corporation in these countries, be it observed, in which the members elect the officers; collect and control its funds in the advancement of scientific objects; and which combines the two great objects of professional instruction and the conferring of licenses to practice; here also the examination of its licentiates is conducted in open day in the presence of all its members. If a perception of the great principles of freedom and utility involved in these traits of its constitutional character do not convince the sceptical, or deter the profligate from attempting their subversion, we would point to the moral and physical results flowing from the operation of these principles. What institution or example of the kind has given a

greater number of well-educated surgeons to the community in the same period? Which of these institutions has reared up a more splendid pile of building, collected a greater number of preparations, or purchased a finer collection of works, in so short a time and with such limited means? We fearlessly answer, none. Some fundamental errors have been introduced, undoubtedly, into its constitution, and numerous faults have been committed in its management; but its organization does not necessarily render these errors perpetual, for, unlike what takes place in "Council" Chambers, into which the light of reason, or the voice of truth, dare not enter; they may be removed at one time or other, by the freedom of discussion which it secures to its members. To this redeeming quality of that institution Mr. CARMICHAEL himself should, while in the act of attempting its destruction, have recollected that he was indebted for the opportunity of doing mischief; for, had it been a college governed by such a council as he recommends, most assuredly the motion for even a deterioration of its character could not have been made. He might indeed have assailed it in introductory lectures and pamphlets; but the "Council" or the oligarchy, which must have resulted from his recommendation, would scarcely have afforded him, in his gratitude for the honour of being elected president, an opportunity of attempting its overthrow in their presence. It is the weak point of all popularly-constituted bodies, that their subversion may at any time be undertaken by the speculator who hopes to profit by their destruction. But were this the place to contrast republican instability and its adaptation to progressive improvement, on the one side; with the permanency of an oligarchy and its incorrigible vices, on the other; we could do so without any apprehension for the result. The splendid example of independence, however, evinced by the members of the Dublin College on this occasion, saves this trouble, as it promises the best security for the duration of the benefits conferred by the establishment over which they preside; for, next to the recovery of rights, their preservation from aggression is one of the best proofs of the sensibility of the possessors to their true interests, as it is one of the highest achievements of civilized man.

THE KING.

THE following are the bulletins which have been issued by his Majesty's physicians since Thursday, the 20th inst.

"Windsor Castle, May 21.

"The King's symptoms continue favourable, but his Majesty passed a bad night."

"Windsor Castle, May 22, 1830.

"The King's symptoms remain the same. His Majesty has passed a better night."

"Windsor Castle, May 23, 1830.

"The King passed a good night; but his Majesty suffered from the embarrassment in his breathing occasionally."

"Windsor Castle, 24th May, 1830.

"The King's symptoms continue the same. His Majesty passed a sleepless night."

"Windsor Castle, 25th May, 1830.

"The King passed the whole of yesterday very uncomfortably; but his Majesty has had a better night, and feels himself rather better this morning."

"Windsor Castle, May 26th, 1830.

"The King has passed another good night, but his Majesty's symptoms have not improved."

"Windsor Castle, May 27, 1830.

"The King slept well last night, and his Majesty feels himself rather better to day."

What an extraordinary jumble! It was stated in the announcement for May 20th, that his Majesty had passed a *good* night, and that his SYMPTOMS continued to *improve*; but it is asserted in the next bulletin, that his Majesty's SYMPTOMS are *favourable*, although he had passed a *bad* night. Then we are told that the SYMPTOMS remain *the same*, when his Majesty

had passed a *better* night. Again, his Majesty passed a *good* night, but *suffered from embarrassment in his breathing*. Then his Majesty continued *the same*, although his night had been *sleepless*. Subsequently he passed the whole of a day very *uncomfortably*, but had a *better night*, and *felt* himself better. Afterwards, his Majesty passed a *good* night (that is, better than *good*), but still his Majesty's SYMPTOMS had *not improved*. Lastly, his Majesty *slept well*, and was *better* the following day; but *better* than *when*, his Majesty's physicians do not condescend to state; neither do they acquaint the public with his Majesty's condition at any moment. Symptoms! What symptoms? We have heard of no *symptoms*. Embarrassment of breathing is only one symptom, and the public and the profession are as much in the dark now relative to the malady with which it has pleased Providence to afflict his Majesty, as they were before any of the things called "bulletins" were issued. For what purpose are these documents published, if not to convey information? Why are the loyal feelings of the people mocked by such trash as each day issues from the royal palace? Who is it that steps between the King and his people, and paralyses either the hands or the heads of his Majesty's physicians? Who is it that thus repels or chills the feelings of dutiful attachment entertained by the people towards their sovereign? Who is it that thus contrives to withhold from the nation all information respecting the bodily ailment of the King? We ask these questions confidently, because we have strong grounds for believing that his Majesty himself wishes for no concealment. But the enchanter of the palace is apparently endowed with more than human daring, or he would not have resolved, without a previous consultation with the first surgeons of the kingdom, upon the hazardous and frequently fatal operation of "puncturing;" for, in the annals of royal afflictions, the parallel to this step is not to be found. A consultation assuredly might have been held, even if there were to be no publication of the fact. It is extraordinary, but nevertheless true, that his Majesty, during his illness, does not enjoy equal advantages with the poorest of his subjects in the wards of our hospitals. For here there is no concealment,—the patients are exposed to the scrutinizing eye of students and young practitioners, and they are also under the immediate inspection and management of the hospital functionaries. Publicity, in these cases, furnishes the most powerful protection against bold and unskilful operations, and also the directions of ill-informed and conceited physicians. We say protection against the *directions* of physicians, because it is well known that, before the press had shed its salutary and benign influence over our charitable medical institutions, surgeons, in compliance with "etiquette," had literally on many occasions cut the throats of their patients at the command of physicians. His Majesty's physicians, therefore, have no right to complain of any criticisms on their conduct, however severe; because they have thought proper to issue confused statements, and to withhold important facts. Concealment is at once the concomitant of guilt, and the natural parent of suspicion. If they are satisfied that the course they have pursued is a correct one, why not lay it open to public view? Why not submit their treatment of his Majesty's disorder to the consideration of the members of the medical profession? Why resolve upon such a dangerous operation, without taking the opinion of his Majesty's sergeant-surgeon—probably the most experienced, and the best practical surgeon in Europe, whose judgment in a case of "*puncturing*" is of more value than the combined deliberations of a whole College of fashionable doctors. Bless us! His Majesty's physicians can *prescribe* "puncturing," yet cannot perform that operation. But the

public may be assured, that the whole of the importance and responsibility of the measure depends upon the act of prescribing; and this will be at once acknowledged by the most ill-informed, when we state that the operation itself consists merely in piercing the skin with the point of a lancet. As the "puncturing" was deemed necessary, why was it not done by themselves. If they allege that they are incompetent to the task, then do we affirm that they are incompetent to determine when it ought to be undertaken. However, supposing the presence of a surgeon to be necessary, why not afford his Majesty the benefit of the knowledge and experience of his sergeant-surgeon? Although the attendance of this celebrated individual could be dispensed with, yet report states that his Majesty has derived great benefit from the prescription which Sir ASTLEY wrote for the late Duke of YORK. It may be said, that his Majesty's sergeant-surgeon has not been consulted on the present occasion, because his master entertains towards him a personal dislike. The reverse, however, is the fact. Sir ASTLEY is far too grateful for the distinguished rank he holds through the kindness of his royal master, to have given the slightest cause of offence. The absence of Sir ASTLEY COOPER from the Castle at the present juncture, cannot surprise persons acquainted with the mild and confiding disposition of his Majesty, who would, we believe, from all that we have heard, rather himself endure the tortures of disease, than give pain to the minds of his attendants, by appearing to distrust their integrity or their judgment. Upon this point we shall only observe, that confidence is much more frequently misplaced altogether than carried to a dangerous extent. Whatever secret and "invisible" influence may control the actions of his Majesty's physicians, it at least must be presumed that the crown itself is free. But if there be no control *over* the throne, the magical influence of the great "invisible" *behind* it has been a subject of discussion in Parliament. In the numerous and peculiar *labours* of this extraordinary being, he has derived much, if not the whole of his success, from his knowledge of an *appropriate* art.

If there be any well-informed persons who consider either that a consultation of the most eminent surgeons in the case of his Majesty was judiciously dispensed with—that the bulletins have been full and explanatory—that "puncturing" in dropsical subjects is a safe and unimportant operation, or, that it is absolutely necessary for the cure of ——— ———, we beg to present them with the following extracts, taken, at a single glance, from Good's Study of Medicine, edited by Mr. Samuel Cooper, the celebrated author of the Surgical Dictionary:—

"All experienced surgeons know, that incisions in anasarcous parts are very liable to mortify, or to become troublesome, and even dangerous ulcers."—*Vol. V. p.* 392.

Dr. Good quotes the following case from Swediaur:—

"In œdematous inflammation, the part or habit is unhealthy and debilitated. Hence, while there is necessarily less tendency to suppuration, there is less power of recovery. In some instances the disorder is migratory, of which the following singular case occurred:—'The patient was a *robust, sanguineous man* of fifty-five years of age, who had for many years laboured under paroxysms of *gout*, which had returned after certain intervals, but who, at the time, *had been free from attack for a longer term than usual*. The œdema first suddenly showed itself in the eyelids, and disappeared on the second day, when he complained of pain and swelling in the fauces, with difficult deglutition. Some months afterwards the same erythema returned, travelled in the same direction, and at last fixed on the *feet*, which in like manner inflamed, ulcerated, and healed with a speedy return of GENERAL SALUBRITY.'"—*Vol. II. p.* 370.

The bulletins do not inform us whether his Majesty is afflicted with anasarca, simple œdema, or œdematous inflammation. Upon the subject of visceral disease they are equally silent, nevertheless these ex-

tracts merit the attention even of royal physicians, some of whom have probably found that a gouty disthesis is rather intractable.

The nobility and gentry who subscribe so liberally towards hospitals, infirmaries, and dispensaries, will probably profit by reading a report of the proceedings which took place at a public meeting relative to one of these institutions. The report will be found at page 335 of our present number.

A Treatise on Deformities, exhibiting a concise view of the Nature and Treatment of the principal Distortions and Contractions of the Limbs, Joints, and Spine, illustrated with Plates and Wood Cuts. By Lionel J. Beale, Surgeon. London. Wilson. 1830. 8vo. pp. 245.

There is, perhaps, no class of diseases on the nature and treatment of which more ignorance has prevailed, even among well-educated surgeons, and which have consequently, with so little relief to the sufferers, afforded so much profitable employment to mechanics ingenious in the art of contriving complicated instruments, but knowing nothing of the structure of the body, and to knavish empirics ignorant of both, as distortions, especially those of the spinal column. For a long time after Pott had pointed out the true nature of the anterior curvature, or angular projection, the attention of surgeons was directed almost exclusively to this particular form of the disease, and spinal distortions of every kind were attributed to ulceration of the bones, or of their fibro-cartilages. Of late years, it is true, more care has been bestowed on the diagnosis, and more rational and discriminating methods pursued; yet of all the numerous works which have been written on the subject, there is not one of any real value, except that of Shaw; and from this, the greater part of Mr. Beale's observations on distorted spine appear to have been taken; we say *appear*, because as they are far from being servilely copied, it is not impossible that the two writers may have both observed similar facts, and drawn the same conclusions from them. The whole work, however, though plain and intelligible, neither filled up with common-place nonsense, nor disfigured by errors or misstatements, and well adapted for the student unacquainted with other works on the subject, it contains very little which can be termed original, and would only disappoint the practitioner who might seek in it for better methods of treatment than those hitherto proposed, or for fuller and more accurate directions for their employment. The best part of the book, or at least that in which the author appears to the greatest advantage, are the observations on the production of deformities, and on rickets; yet, even here, we can find nothing especially worthy of being presented to our readers, either analytically or in the form of an extract. The sections on the deformities of the joints of the extremities, are good as far as they go; but they are much too brief, and too limited to certain kinds of deformity. Under the head of contractions of the elbow, for instance, the only one treated of is that which depends on rigidity of the biceps muscle, an uncommon disease; while all the contractions produced by a morbid state of the joint, are dismissed in three lines as incurable; and those which are consequent upon burns, are only briefly spoken of in the section on "contractions of the wrist and fingers." It may, perhaps, be worth mentioning, that in this section the author describes a remarkable case, which he lately met with, where "the ring finger of the left hand gradually, but slowly, contracted, was followed after a few years, by the middle and little fingers of the same hand, and subsequently, by the three last fingers of the right hand, and where the two fore fingers were lastly beginning to contract." He does not mention the state of the muscles of the forearm, but observes, that "more than twenty years had elapsed since the commencement of the malady," and that "several of the most eminent surgeons in London were consulted," without the slightest benefit to the patient.

The distortions of the lower extremities are well described, and the treatment proposed for them is perfectly rational and unobjectionable, but, as we have already observed, no new information is afforded.

In his treatment of lateral curvature of the spine, the author agrees with Shaw,

except that he is rather more an advocate for mechanical extension; he is not, however, sufficiently explicit as to the manner in which he would have this applied, though he states that it should always be made with the patient in an horizontal position, which Shaw also recommended. We have already observed that the work contains very few errors, there are, however, two which we cannot pass by in silence: when speaking of the action of the muscles, the author states that

"The latissimus dorsi, when the arms are fixed, balances the body by redressing too much curvature of the lower part of the vertebral column; when a person is in danger of falling on one side, from unexpectedly slipping off the curb-stone, he instinctively throws up the opposite arm by which motion the latissimus dorsi draws the spine towards this same side, and prevents the fall. The action of this muscle preserves the equilibrium of the body in rope-dancers by the aid of a pole."

This statement is decidedly incorrect; the equilibrium is preserved, in the first case, by the mechanical weight of the arm, and in the second by that of the pole; indeed, the rope-dancers often keep their arms almost close to the body, and make very little use of the muscle in question, which must, moreover, be most violently, and, at the same time, partially, exerted to cause any curve in the vertebral column. Again, at p. 33, he observes, "nothing can surpass the power of contracted cysts after the cure of abscesses in the lungs, by which the vertebræ are drawn out of their line, and the ribs bent inwards." In all such cases, we may safely affirm that the contraction of the chest is produced, not by the mechanical force of the cicatrix, but by the diminution of the size of the lung, and the consequent action of atmospheric pressure; the contraction, indeed, of one side of the thorax is most evident and most striking after pleuritis, where the adhesions are often very slight, or, at least, of feeble texture.

The circumstances already spoken of, will be sufficient reasons for our not giving a detailed analysis of the work; and we shall only observe, in conclusion, that it appears to be the production of a surgeon of good sense and considerable information, but little experienced in the diseases on which he has chosen to write.

LONDON MEDICAL SOCIETY,

May 24, 1830.

Mr. Callaway in the Chair.

SMALL-POX, WITH DISEASED JOINTS.

Mr. Stephens read the following cases of small-pox, attended by disease of the joints. The first patient, Elizabeth Flood, an infant, twelve months of age, was taken ill in January last. The pustules were small, and did not suppurate kindly; very considerable swelling of the limbs accompanied the suppurative stage; the usual change in the pustules was closely followed by an evident, and almost simultaneous disease of the elbow-joints, the articulations of the scapula with the humerus and clavicle, and of the clavicle and sternum. Matter was quickly formed and discharged from the articulations of the clavicle. After a few weeks, no swelling or apparent affection remained, beyond a puckering of the skin, and a minute orifice, from which a discharge could barely be detected, motion of the affected joints was performed with ease and comfort.—The two elbow-joints, and one shoulder-joint, remained considerably swollen, and seemingly filled with synovial secretion. Mr. Stephens was in hopes that synovia, and not matter, was contained within the capsule of the remaining joint, as he could scarcely believe that suppuration of both the elbow, and one of the shoulder-joints, could be proceeding with so little apparent constitutional disturbance. In a short time, however, the facts became apparent; a grating of the ends of the bones in both elbow-joints could be felt upon every movement, the matter soon ulcerated through the ligaments, and diffused itself under the fascial coverings of the fore-arms, and at length discharged itself about the middle of the left fore-arm, and through several openings about the joint of the right. The joints could now be turned in almost any direction, and could be bent sideways or backwards, without any apparent pain to the child. The looseness and crepitus of the joints were like that which is felt in a comminuted fracture. The olecranon process of the ulna, and the lower end of the humerus, with their cartilages, denuded and dislocated from each other, protruded through the skin covering the right elbow, and so remained perfectly bare for several weeks. An ulcerative process (as was seen in a preparation handed round the room) was commencing for the purpose of detaching and exfoliating these protruded portions. A week or two before death a swelling appeared near the back of the metacarpal bone of the thumb, evidently

containing fluid. Three months from the first attack the child died. On dissecting out the right elbow-joint, caries of the protruded bone was found, and also, as in the other elbow-joint, sloughing of the ligaments. Both articulating extremities of the left clavicle were in an ulcerative state. The spine of the scapula also, on the same side, was completely carious. The capsule of the right shoulder-joint was filled with a similar kind of white curdy matter to that which had been discharged, the ligaments not being ulcerated. The swelling on the hand contained matter communicating with the trapezium, which was found in a carious state.

About the same time, Mr. Stephens was called to another case of small-pox in a boy aged eight years, which was followed by swelling of both knee-joints, but differing from the former, in its being accompanied by considerable pain on extension of the limbs. Fluid could easily be felt under the patella, and within the joint, which, from the result of the other case just detailed, he feared might be matter. The right hip-joint also subsequently became swollen and painful, with a sense of fluctuation extending some distance from the hip under the fascia, on the outer part of the thigh. After a few weeks, the pain and swelling of one knee-joint subsided almost entirely, creating a hope that the other joints were affected with a collection of synovia only, and not of matter. Dr. Cholmely now saw the case, and also regarded it as very possible that the other joints might be in like manner restored. The hip-joint is now perfectly recovered, and the left knee-joint is progressing to a sound state.

The first case detailed was of so hopeless a character from the very first, that palliative treatment was all that could be attempted. Mercury and chalk with rhubarb were given, and fomentations and poultices were applied alternately to the joints, which were also frequently bathed; but the chief attention was directed to keeping them easy and still. The second case affording a better prospect of relief, remedies were more actively employed. The joints were fomented, and covered with warm poultices in the first and most active stage. Leeches were not employed, owing to the prejudice of the mother. A liniment, composed of liniment hydrarg. ʒiij; lin. sapon. ʒiij; aq. dis. ʒvi, was the chief local application.

In commenting on these cases, Mr. Stephens said that he believed that affections of the joints after small-pox, were by no means unfrequent. He had a recollection of having formerly seen such cases, but he should consider that so remarkable and such extensive suppuration of the joints, as the first of the two cases presented, was rare. There was one particular fact in the history of the present cases worthy of notice, namely, that in the case where suppuration took place, there was an easy flexion and extension of the joints, with little or no pain. During the whole course of the suppuration in the joints, there was but little sensibility; they admitted of free motion without pain. The second case, on the contrary, was attended with very considerable pain during the whole time the joints were swelling, and the least motion occasioned great torture. The following, he thought, would be admitted as a correct diagnosis in affections of the joints; namely, that where there has been a less degree of pain or sensibility in a joint, than the diseased appearances would seem to warrant, the more serious and probably incurable was the nature of the affection. Diseases of the synovial structure produced more pain than diseases of the cartilages or bones. He conjectured, that those cases were analogous to those which are designated purulent deposites, which are found occasionally to follow inflammation and suppuration of veins after phlebotomy or other causes; and he thought that they might tend to throw some light upon the nature of the affections constituting phlebitis. Some believed, that the cause of the formidable effects following bleeding was, generally, extended and continuous inflammation of the veins affecting the heart, &c. in its progress. Others considered, that inflammation of an erysipelatous character was the chief cause of the fatal effects; others ascribed the effect to the admixture of pus with the blood; he was himself inclined to the latter opinion, and thought the case he had related went far to support it. The cases of purulent deposites, so called, which had at various times been related, were all of them, as far as he could collect, connected with the presence of pus in the circulation.

In phlebitis, when adhesive inflammation took place, with a deposition of lymph sufficient to block up the vein, these effects did not ensue. Cases of this kind occurred after parturition, and the veins of the uterus were found to contain pus. If these peculiar cases were confined to inflamed veins, it might remain a question, whether the fatal effects were produced from a generally extended inflammation of the veins, or from the contamination of the fluids by the admixture of pus in the circulation. But if the analogy of the case he had related, to the others of purulent deposites, was admitted, it was a very strong argument in favour of such contamination, as there was in these cases no direct affection of the veins; but there was a probable absorption of pus from the pustules with which the body was co-

vered, and which, it must be remembered, underwent an imperfect suppuration.

On an inquiry from the relater, whether any gentleman had witnessed similar cases, Mr. Brown and Dr. Walshman said, that they had seen affections of the joints following small-pox, but they were of opinion that these had occurred in scrofulous subjects.

Mr. STEPHENS said he was well aware that scrofulous action might be excited in a constitution by any of the exanthemata, and that the joints were liable to become so affected in its progress; but he denied the resemblance between such cases and the one he had first detailed. He had frequently seen the joints affected after exanthematous affections, but it was totally different to the case of suppuration which he had related. In such cases there was a slow progress of diseased action. In the first case he had related, there was an almost instant destruction or perishing of the affected parts. He believed that pus from the pustules became in some way mixed with the blood, and by contaminating that fluid, occasioned a destruction or loss of vitality to certain parts. The cartilages of bones, and the parts forming a joint, appeared to be the most liable to suffer from such a cause. He believed the case to be perfectly allied to those which had been found to accompany suppuration of a vein. The character of the disease and its effects were precisely the same.

Dr. COPLAND stated, that he had witnessed several cases of this kind, occurring as a consequence of matter forming in the veins of the uterus. The effects also were by no means confined to the joints, as he had seen these purulent deposites taking place in the liver, the lungs, and other organs.

Dr. WHITING did not agree in opinion with Dr. Copland, who appeared to think these collections of matter were deposites. He did not consider Dr. Copland and Mr. Stephens as agreeing in opinion, for the former explained the cases upon the principle of a supposed direct deposition of matter in various parts, while the latter did so by supposing the admixture of pus in the circulation to occasion a diseased action in such parts, the result of which was a secretion of pus. Dr. Whiting agreed most with the latter opinion, and did not think the case differed materially from those which occurred continually under the influence of scrofula. In scrofulous affections, pain was by no means great, and he conceived that diseased action might have been proceeding in Mr. Stephen's cases for some time, although undiscovered, and that the formation of pus was not so direct as was supposed.

Mr. STEPHENS replied, that he might differ in some respects from Dr. Copland, as to the manner in which these effects took place, but in one essential he believed they perfectly agreed, and that was in the fact of their occurrence, and of their bearing no resemblance to affections of the joints from scrofula and other causes. Dr. Whiting had considered the case as by no means unique, and as differing in no essential particular from those continually occurring. He (Mr. Stephens) would, however, take the liberty of stating, that he believed Dr. Whiting had never witnessed such a case, or he felt assured he would at once have been convinced that its character was wholly and essentially different.

The discussion not having been brought to a satisfactory conclusion, the subject was announced for continuation next Monday.

INATTENTION OF MR. WHITE TO HIS DUTIES AT THE WESTMINSTER HOSPITAL.

To the Editor of THE LANCET.

SIR,—Will you allow me, through the medium of your pages, to ask, why Mr. White so seldom makes his appearance at the Westminster Hospital. A pupil, who has been in regular attendance there for two months, informs me, that he has seen Mr. White only once during that period. It cannot be that disrespect is ever shown to Mr. White, for the young men who know him speak in unqualified terms of his professional skill and acquirements. I have heard it suggested, that his private practice is so great as to interfere with his attendance at the hospital; or that, perhaps, the natural sluggishness of disposition of which he is accused, operates in keeping him away. In either case, much as would be lost by the cession, would it not be better that Mr. White should relinquish his office in favour of some more active, or less occupied, practitioner?

Your correspondent, in the Number for April 24th, draws a comparison between the relative talents of Messrs. White and Guthrie, very much in favour of the former, a point which I am neither able nor willing to canvass; but surely the pupils and establishment are more indebted to the man of acknowledged ability, whose presence may be relied on *within half an hour or an hour of his stated time*, than to one of even more brilliant acquirements, who does not condescend to visit them at all.

Your obedient servant,

INQUISITOR.

Westminster Hospital, May 15.

TREATMENT OF A PUPIL AT THE LONDON HOSPITAL.

To the Editor of THE LANCET.

SIR,—The gentleman who received the insult complained of, and whose name is required by a "Life Governor of the London Hospital," is Mr. George Walford, son of a member of the profession, residing at Limehouse, who is also a "Life Governor of the Hospital."

I have made the most diligent inquiries, and cannot discover that the pupil's demeanour warranted the conduct of Sir W. Blizard. Under these circumstances I have no hesitation in denying Sir W.'s right to act as he did; and I cannot forbear expressing an opinion that his conduct was as little calculated to advance the interests of the Institution as it was to sustain the character of a gentleman. If the Governors acknowledge Sir W.'s right to act in the manner complained of, they will do well to yield up the remainder of their privileges, and trust for the performance of the duties due to the public and to themselves, to the temperate discretion which time has still left in the keeping of the aged Knight.

I am, Sir, &c.

ANOTHER LIFE GOVERNOR OF THE LONDON HOSPITAL.

May 18, 1830.

ANOTHER DIVINE DOCTOR.

To the Editor of THE LANCET.

SIR,—Having seen a paragraph in one of the late numbers of THE LANCET, stating, that Dr. Charles Mansfield Clarke is the only "living Doctor of divine origin," I take the liberty of informing you, that there is *another*. A gentleman in the first line of practice here has thus allowed himself to be *traves-tied*. No doubt, Sir, you will recognise the individual, and may consider the fact worth a corner in your esteemed Journal.

I am, Sir, yours respectfully,

TYRO.

Scarbro', May 4, 1830.

IRREGULAR OPERATIONS AT ST. BARTHOLOMEW'S.

To the Editor of THE LANCET.

SIR,—Allow me to send you the following case for insertion; if you think proper to inquire, you will find the statement correct to the letter. On Tuesday last, the 18th instant, the femoral artery was tied by Mr. Lloyd, for popliteal aneurism, in a middle aged man. The operation was performed in *twenty five minutes*, and the difficulty, *as stated by the operator*, was in consequence of "the large size of the two nerves" which pass down in the sheath with the artery, which *completely concealed it from view*, some of the pupils present, suggested whether the difficulty might not have arisen from *hour glass contraction* of the vessel; the patient is doing well. At the same time, Mr. Editor, that I place this statement before you, I beg to be informed, why Mr. Lloyd deviated from the regular order of things, and performed the operation on a Tuesday instead of a Saturday, the usual operating day at this Hospital, and particularly as there was not an urgent symptom attending the case, which called for immediate relief? I beg to state, that the notice of the operation was not made known more than two hours before the man was on the table. For my own part, I can see no other reason which Mr. Lloyd could have in view, than that of preventing the great mass of students and old pupils who are generally present on a Saturday, from witnessing the bungling manner in which this operation was performed.

Respecting the "hour-glass contraction," I refer to what Mr. Lloyd was injudicious enough to turn round to state to the pupils at an operation for lithotomy, which he lately performed at this Hospital; he had some difficulty in extracting the stone, and then told the pupils, that it arose from hour-glass contraction of the organ; I ask Mr. Lloyd where he got his idea of hour-glass contraction of the bladder, and beg to inform him, that the students of St. Bartholomew's have not studied without profit.

I am, Sir,

Your obedient servant,

A PUPIL.

St. Bartholomew's,
Thursday, May 20th, 1830.

MR. BROOKES.

To the Editor of THE LANCET.

SIR,—I am an old pupil of Mr. Brookes's, and having seen in your contents of THE LANCET, April 17th, 1830, a proposal to give this meritorious person some token of the high respect which all must have for him, who had the benefit of his instruction, from the manner in which he imparted it; I wish to contribute my token of gratitude, two guineas, and when I hear that the sub-

scription is open, and conducted by you, I will enclose it.

I remain, yours, &c. &c.
H. P. Palmer, M.D.

Arbroath, 20th May, 1830.

[As a mark of respect to Mr. Brookes, the Editor would not object to form one of a Committee for conducting the subscription; but he would be reluctant, on many accounts, to take upon himself the whole of the responsibility which must attach to such an undertaking.]

ST. THOMAS'S HOSPITAL.

LITHOTOMY.

James Taylor, aged 14, was admitted into Isaac's Ward on the 25th of March, under the care of Mr. Green, with symptoms of stone in the bladder. He had been afflicted for eight years, but latterly his sufferings had increased. When admitted, he stated that he had sudden suppression of urine after its running in a good stream, and that this was followed by painful contraction of the bladder. The urine was occasionally bloody, with gravelly and mucous deposite, and there were also the more indirect symptoms, as itching at the end of the penis, and slight elongation of the prepuce. He states that he has never had any pains in his loins, and has always been in good health; his appetite never failing him, and his rest generally undisturbed. Mr. Green sounded him, and soon detected a stone, and on the 5th of April he was operated on in Mr. Green's usual mode, with the gorget. The stone was first grasped in its long axis, and could not be extracted; on the next hold, however, it was readily removed. The patient bore the operation with surprising fortitude, talking during its progress, and looking at the wound whilst the stone was extracted, and he exclaimed with great earnestness when the calculus first appeared, that he knew it was as big as a partridge's egg. About an hour, however, after the operation, he became faint, the face very pallid, and skin cold. In the evening he was visited by Mr. Green; he was then extremely pale, the pulse very rapid and small, and there was great restlessness. Mr. Green said he was unable to account for this train of symptoms; the loss of blood could not explain it, for not more than four ounces had escaped from the wound during the operation, and but a very trifling quantity since. Warmth had been applied during the day to the abdomen, and Mr. Green ordered in addition,

Carbonate of ammonia, five grains;
Tincture of opium, 25 minims, in camphor mixture, immediately.

6. The sister states, that he vomited the draught immediately after swallowing it. In about an hour after, some solid opium was given, which remained. His thirst during the night had been very great, but the drink (barley-water) was rejected as soon as swallowed. Towards morning he became still lower; the extremities were cold, the pulse hardly perceptible, and the countenance cadaverous; the thirst still continuing, brandy was administered at intervals by tea-spoonsful. Warm bottles were applied to the feet, and the chamomile bags to the abdomen; at this time he appeared almost in a moribund state. The stomach so irritable, that the brandy is now returned. No tenderness on pressure of the stomach or abdomen. A draught of carbonate of ammonia and lemon juice was given, which relieved the vomiting for a time. At about two, Mr. Green saw him, and ordered a mustard poultice to the epigastrium, the effervescing draught to be continued every four hours, and gin to be substituted for the brandy, as he expressed a preference for it. The wound looked pale, and the secretion of urine through it abundant.

7. During the night he recovered a little, and the skin became warmer; he had continued to take his gin with some port wine, and the sickness had much subsided.

8. The sister states that he had been better during the night, and had obtained some sleep. His appearance, however, is but little altered; the skin somewhat warmer, and pulse more perceptible, though not sufficiently so to be counted. He complains now of pain, when pressed, in the lower part of the abdomen. When seen by Mr. Green, there was evident reaction in the system; the pulse was quick and sharp; the tenderness on pressure great; the skin hot and tongue dry.

Half an ounce of castor oil, and an *enema of gruel*.

At nine o'clock, when again visited by Mr. Green, the bowels had not acted. The castor oil was therefore repeated, and the pain continuing at the belly, hot poultices were applied.

9. Has been much more comfortable during the night, had several motions, and slept pretty well; indeed the improvement now is very manifest; the skin has a moist warmth all over it; the tongue moist, and the pulse less frequent, and has more power. He expresses a great wish for beer, and thinks he could eat a chop. These were permitted him; the beer he drank, but could eat very little. On examining the wound, it still remained pale, and on each side of

the raphe of the perineum was a dark purple spot. The urine flows through the wound.

10. Has had a pretty good night, and during the last twenty-four hours has partaken of beef, tea, and eggs. He complains of pain about the perineum; the bowels are open, and the urine abundant. In the evening of this day, however, the sister states, that after taking some porter and chop, which Mr. Green allowed him, he became suddenly faint, the limbs thrown forcibly out, and he appeared almost as if in the last struggle of death. He was, however, soon revived by cold water, and remained comfortable the whole night, sleeping several hours.

11. Seems in every respect better; his countenance improved, bowels regular, and the urine, all of which passes through the wound, is abundant. There is still, however, pain in the perineum.

12. Has passed a pretty good night; bowels freely opened. A small quantity of urine has passed through the urethra.

13. Still doing well; the greater portion of the water passes through the wound, but some passes by the urethra. Ordered,

One grain of sulphate of quinine;
An ounce and a half of infusion of roses;
Fifteen minims of tincture of hyoscyamus; every six hours.

14. Still going on well; no symptom of importance, excepting some pain in the perineum on pressure.

16. The sister says, that there has been a discharge of pus from the wound since yesterday.

17. Has continued much the same since the last report; still has pain in the perineum, and discharge of pus from the wound.

19. Mr. Green visited him to day, and removed with a pair of dressing forceps a considerable slough, which was followed by about half a pint of healthy pus, after which the pain was somewhat relieved.

20. The wound still discharges copiously; in every other respect he remains the same.

22. In consequence of torpor of the bowels, an enema was administered yesterday, but the bowels are still inactive. House medicine immediately.

23. The house medicine repeated.

25. The bowels have been acted on four times by the medicine. Discharge of pus still great.

28. During the last few days, gritty deposits from the urine have taken place about the wound.

May 1. Continues to improve. There is still discharge of pus and urine from the wound, but the greater part of the latter now passes through the urethra.

7. We may now sum up the report; his general health is in every point of view restored; a small portion of urine still flows by the wound, and there is some discharge of pus; but his appetite is good, his rest sound, and there is every probability of his doing well. He continued to take his quinine, mutton chop, and a pint of porter daily.

It would not be just to close this interesting case, without noticing the great attention which was paid to the patient. During the early part of his illness, he was visited twice a day by Mr. Green, and for a fortnight was watched every hour, day and night, by his dresser, Mr. Ward.

HOTEL-DIEU.

CASE OF POISONING BY THE SUBNITRATE OF BISMUTH.

A MIDDLE-AGED man, who was subject to pyrosis in consequence of excessive drinking, had been in the habit of taking magnesia, instead of which he once, by mistake, swallowed a large quantity of the subnitrate of bismuth. Immediately afterwards, he felt a violent burning sensation in the throat, and was affected with frequent vomiting and diarrhœa. These symptoms had continued for eleven hours, when he was seen by Dr. Kerner, of Weinsberg; he was then affected with hiccup, violent vomiting of brownish matter and profuse diarrhœa; the pulse was small and intermittent, the face pale, and the whole body cold; the voluntary muscles, especially those of the lower extremities, were spasmodically contracted; the throat and pharynx were inflamed, he could not swallow, and complained of much pain in the throat, a nauseous metallic taste, and intolerable thirst. He could not be prevailed upon to take any thing except almond emulsion, to which Dr. Kerner added some laudanum and lemonade, and of which he drank a great quantity; emollient injections were also administered, and he was put into a warm bath. By these remedies, the spasmodic contraction and violent pain were considerably relieved, the pulse rose slightly, and on the following day he was in every respect better. On the third day, however, the inflammation of the pharynx became much worse; the vomiting had ceased, but there was still constant retching and hiccup. The pulse was less contracted; the abdomen free from pain; the face and hands rather swelled. By the application of sixteen leeches, and the continued use of the emulsion with laudanum, the affection of the throat was much relieved; but respiration now became laborious; the patient com-

plained of dimness of sight, and a burning sensation all over the skin; there was also complete suppression of urine since the accident. On the fourth day, no material alteration had taken place; the abdomen became slightly swelled, but not tender. The patient was very downcast, and said he felt completely paralysed. On the fifth day the inflammatory symptoms of the throat returned with much violence; the abdomen had also become tender; there was hiccup, and profuse discharge of brownish saliva, with a metallic taste. VS. ad ʒxii ad catapl. et fric. emoll. abdomini. The suppression of urine had continued, the bladder appeared however to be empty. The swelling and tenderness of the abdomen increased; there was constant retching and hiccup, and a trembling of the limbs, similar to that in delirium tremens; the throat and tongue were enormously swollen, so as almost entirely to prevent swallowing. During the following days the symptoms of enteritis continued; the mattter brought up from the stomach became stercoraceous, respiration very laborious, etc., and he died on the evening of the ninth day after the accident. On examination, almost the whole of the alimentary canal from the throat down to the rectum, was found inflamed; the tonsils, uvula, epiglottis, and the mucous membrane of the larynx, were gangrenous; that of the œsophagus was of a livid colour; the stomach inflamed internally, especially at the cardiac end; its mucous membrane was, as it were, macerated, and could be easily detached from the subjacent tissue. The intestinal canal was throughout inflamed, and in many places gangrenous. The lower portion of the spinal chord, and the internal membrane of the heart, also exhibited traces of inflammation. The kidneys were perfectly healthy.—*Heidelberger klinische Annalen.*

EXTRACTION OF A FIVE-FRANC PIECE FROM THE PHARYNX.

On the 15th of May, M. Dupuytren extracted from the pharynx of a young man a five-franc piece, which had been swallowed the day before, and had remained in the pharynx for twenty-four hours, in spite of various attempts to remove it. An emetic had produced frequent vomiting, but had not altered its position. It was lying almost in a transverse direction, at the lower portion of the pharynx, where it formed a slight prominence. A pair of curved forceps was introduced, but without any effect, except that of slightly turning the piece of money. Graefe's extractor (an elastic probe, terminating in a conic piece of silver half an inch in length and breadth, the basis of which is concave and turned upwards) was now, therefore, introduced, and the coin, without any difficulty, brought up into the mouth.—*Lanc. Franc.*

HOPITAL DE LA CHARITE.

STAPHYLORAPHE.

On the 27th of April, a robust man, a painter by profession, was admitted, with a congenital division of the soft palate; the fissure was not very large, and confined to the soft parts, and as the individual evinced a great desire to have the deformity remedied, M. Roux proceeded to perform the operation on the 4th of May in the following manner:—The mouth being kept open by a solid substance, one of the angles of the soft palate was taken hold of and kept fixed by a pincette; a curved needle with the thread was now introduced behind the palate by means of the "porte-aiguille," so as to enter about three lines from the margin of the fissure near its angle; the needle with the thread was then withdrawn by another pincette, and the same proceeding applied on the other side. A second ligature was then placed at the upper angle of the division, and a third between the two others. This part of the operation was rather tedious, on account of the frequent spasmodic contraction of the parts. All the ligatures having now been placed, the threads were kept outside of the mouth, and the edges of the fissure pared off with the probe-pointed bistouri and curved scissars, the angles of the division being at the same time kept fixed by the pincette. The hæmorrhage, which repeatedly hindered the operator from proceeding, was eventually arrested by gargling with cold water, and M. Roux now terminated the operation by tying the ligatures with his fingers, and cutting them off close to the knots. M. Roux observed, that the posterior spina nasalis presented a slight bifurcation, and thus prevented him from placing the uppermost ligature as high as he had wished; the consequence of this was, that there remained a small hiatus near the hard palate, but which he was convinced would be obliterated by the application of the nitrate of silver. The operation lasted forty minutes, which is by no means too long, considering that it is one of those operations where precision, rather than celerity, is required. Sometimes the operation is considerably delayed by unforeseen accidents; thus M. Roux, in performing the operation on a young girl, was occupied no less than two hours and a half, on account of repeated convulsive fits, which also prevented his applying more than two ligatures; yet the operation was attended with complete suc-

cess. The patient having been removed to his bed, a considerable discharge of blood and saliva took place, which M. Roux ascribed to the remaining hiatus, for in the operation of divided palate, as in that for hare-lip, the contact of the edges is sufficient to prevent all hæmorrhage. On the 8th of May, after four days' complete rest and abstinence, during which there had been a constant discharge of saliva, the ligatures were divided and withdrawn; the wounds had completely united, except at the upper part, near the hard palate. Previous to the removal of the ligatures, the patient had taken a small quantity of soup, but was ordered not to take any thing this and the following day. On the tenth, the union of the palate appeared to be complete; the small aperture, which was about the size of a pea, was to be cauterized.*—*Lanc. Franc.*

MELANOTIC CANCER OF THE LITTLE-FINGER OF THE RIGHT HAND.

—— Chalange, æt. 61, was admitted on the 27th of February, on account of disease in the little-finger of the right hand; at the extremity of the finger there was a tumour of a globular form, four inches and a half in circumference, of black colour, and with an uneven, and, in some places, ulcerated surface; it appeared to be situated at the lower part of the third phalanx, the upper two-thirds, as well as the other fingers, were perfectly free from disease. The patient stated that about thirty years ago, a black line had formed under the nail of the finger, and had remained stationary during twenty-seven years, without causing any pain; that three years ago this black line had become larger; the nail had come away, and that there had sprung up in its place fungous excrescences which had rapidly increased in size, and discharged blood and fœtid matter; only three months before his admission the tumour had become the seat of violent lancinating pain. On the 2nd of March, M. Boyer performed the exarticulation of the third phalanx; no accident supervened, and the wound was healed within a few days. The tumour resembled in size and form, a large truffle, and consisted of a mixture of solid fibrinous matter, and the colouring fluid of the blood; the degeneration was entirely confined to the soft parts; the bone was perfectly healthy in its middle.—*Journ. Hebdom.*

EXOSTOSIS OF THE RIGHT HUMERUS.

J. B., 25 years of age, and of a robust constitution, was admitted on the 15th of March, with a tumour on the outer side of the upper portion of the humerus, which raised the deltoid muscle, so as to form a prominence of the size of a large fist; it was of an irregularly globular form, and adhered to the bone by means of a neck, which could be distinctly felt about half an inch below the articulation; the soft parts could be freely moved over it; its structure seemed to be osseous or cartilaginous. The patient stated that about six years ago he had felt, in the upper part of the arm, a deep-seated tubercle, of the size of a filbert, which had caused no pain nor any difficulty of motion; but that within the last three months, when the tumour had begun rapidly to increase in size, he had almost lost the use of the limb, and was constantly suffering from pain in it, though his general health was good. M. Boyer was rather averse to an operation, the consequences of which might, he thought, be very dangerous; M. Roux did not form such an unfavourable opinion, especially because he recollected having seen a similar case under M. Dubois, who had removed the tumour by means of the saw. He resolved, therefore, to adopt the method of this eminent surgeon in the present case, and performed the operation on the 20th of March: two parallel incisions of nearly three inches in length, having been made at the sides of the deltoid muscle, the pedicle of the tumour was laid bare, and a saw carried under it; the soft parts were protected by pieces of pasteboard placed between them and the saw, and the tumour was thus removed without any difficulty; the asperities remaining, were removed with a file, and the edges of the wound were brought together and covered with a compressive bandage. Six arteries were tied during the operation. A few hours after it, the limb became swelled, and of a livid colour, though not very painful. On the following morning, the bandage having been loosened, all unfavourable symptoms disappeared, the swelling subsided, etc. On the fourth day the dressings were removed, the wound had begun to unite, and had not suppurated much; the general condition of the patient was very good. During the following days, however, the soft parts, between the two incisions, began to swell, and the constant discharge of a considerable quantity of matter through the wounds had almost completely separated their edges, when M. Roux made a small incision between the wounds, to give a free issue to the matter collected below. This had the desired effect; the wounds from the operation began to unite, and on the 8th of April had almost entirely healed; the use of the arm was almost completely restored. The tumour was found to be, for the greater part, of cartilaginous structure; it was of white, almost pearl colour; its surface was perfect-

* This is the forty-eighth case of divided palate where M. Roux has performed the operation of staphyloraphe.

ly smooth, though somewhat uneven, its size that of a hen's egg; on dissection it was found to consist of three very distinct layers, an external, of cartilaginous tissue, a middle of reddish colour, and somewhat less consistence than the former, similar to the spongy texture of bones, and a central nucleus which was intimately connected with the pedicle, from which it appeared to have emanated, of osseous structure, and very great, almost ivory density.— *From the Journal Hebdomadaire and the Gazette de Santé.*

CANTERBURY BAT.

Αλφα informs us, that "a BAT has for sometime past been observed flitting about the ruins of St. Augustine's monastery in the city of Canterbury, and has at last obtained a corner in the Kent and Canterbury Hospital, where he may now be seen exercising his murky influence over that valuable institution. The first attempt of this bat at the hole-and-corner system (he observes) was exhibited very shortly after he had succeeded in fixing himself in the hospital. Notices had been issued, that he would on a certain day, at an appointed hour, perform the operation of lithotomy: every preparation was accordingly made, the patient ready, and the operating theatre filled with pupils and practitioners not connected with the hospital (for it had been customary to have the operations public), when, to the astonishment of all present, this bat came forward and said, he did not intend to operate, as he was not at that time in a fit state of mind to perform so delicate an operation! It is hardly credible, that his only reason for postponing the operation was, that he saw among the number assembled to witness it, a gentleman who had fairly and honourably opposed him at his late election? Was this a sufficient excuse for keeping his patient in suspense, and thus trifling with the feelings of a fellow-creature? This bat, though a small one in dimensions, is a decided vampire in disposition. No sooner is he elected a surgeon to our hospital, than he begins contriving how he can best exclude others from the like advantages. Since the foundation of the institution, four surgeons have been deemed necessary, but our bat, considering that two only were requisite, is now moving heaven and earth to prevent the election of another, although there was a vacancy. If these were really his sentiments, why did he offer himself as a candidate four months ago? He says the situation is not worth his time and attention, unless he can appropriate the whole of the operating department to himself, and that there is no one in this town at present, equally qualified with himself. This, Sir, from a man who (though upwards of forty years of age) passed the College but two years since!"

BOOKS FOR REVIEW.

A System of Medical Nosology. By J. Macbraire, M. D., L. E., &c. London, Longman. 1830. 12mo. pp. 107.

Analytical Anatomy. Great Sympathetic Nerve. By P. J. Manec, D.M.P. Plate, with text translated. London: Feuillet-Dumus, and Co. 1830. Chart.

TO CORRESPONDENTS.

Communications have been received from Mr. Card—Zeno—Mr. Dolby—One of S.'s Dupes—A. B.—Quæsitor—Mr. H. Rees—Σ.—One of the Public—A Supporter of THE LANCET—Y. Z.—Mr. C. Eking—Mr. Forbes Winslow—Mr. Chase—Mr. Butler—Mr. J. Chatterton—A Constant Reader—Mr. S. Dickson—P.—Carloger Lobgeron—C. P. C. N.—O.—Mr. Edwards—A Borough Pupil—Mr. Welstead—Mr. Thomas Turner—R. M.—Justus—Mr. Lanyon, jun.—Mr. G. E. Langton.

The following is a fac-simile of a bill issued by one of the spouters in favour of the Western Hospital:—

"ST. MARY'S LYING-IN INSTITUTION,

For the delivery of Poor, well-conducted Married Women at their own Homes,

Surgeon-Accoucheur, R. T. WEBB, Esq.,

(*Author of a Manual of Medicine and Midwifery, dedicated to his Majesty,*)

46, UPPER YORK STREET, BRYANSTON SQUARE.

Subscribers of one guinea per annum may recommend an unlimited number of patients.

Subscribers of half a guinea, five patients.

Subscribers of five shillings, two patients.

If ever a suffering fellow-creature has a greater claim on benevolence one time more than another, it is surely when—to the pressure of poverty—are added the pains, dangers, and cares of labour; and when home is dearest both to the rich and poor, the charity that gives relief without removal, is indeed doubly blessed. On this ground, it is hoped this institution will meet support adequate to the wants of the deserving poor of the neighbourhood; for it is seldom humanity can alleviate so much misery at so small an expense.

*** The list of patrons and subscribers will be shortly published, and forms of recommendation may be had of Mr. Webb."